ON SCENE

U.S. Department of Transportation

United States Coast Guard

SPECIAL MOTOR LIFEBOAT ISSUE

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ON SCENE

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*****

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COVER: Station Gloucester 44–footer in the surf.

ON SCENE is a quarterly, authorized, special interest publication, produced by the Office of Navigation Safety and Waterway Services for members of the U.S. Coast Guard and the SAR community. Editorial content is not to be considered as authority for official action, nor as record material. Individual views and opinions expressed do not necessarily reflect those of the Department of Transportation or the U. S. Coast Guard.

CHIEF, OFFICE OF NAVIGATION SAFETY
AND WATERWAY SERVICES
UNITED STATES COAST GUARD
WASHINGTON, D.C. 20593-0001

Dear "On Scene" Readers,

This is a special issue of "On Scene" which follows the history of the motor lifeboat in the United States. With gracious permission of the Royal National Lifeboat Institution, we also present an article on the inventor of the lifeboat, Lionel Lukin.

Of the many Coast Guard resources, only one is truly designed for SAR in heavy weather, breaking seas and surf: the Motor Lifeboat. As we approach the 21st century, we will phase in our new 47' MLB replacement and retire our aging but venerable "44-footers".

On a class by class basis, the 41' Utility Boats, Dolphin helicopters and Light Utility Boats <u>all</u> are involved in more cases, perform more sorties and save more lives than Motor Lifeboats. Yet "the lifeboat" has earned a unique place in history.

Sincerely,

W. J. ECKER
Rear Admiral, U. S. Coast Guard

Lionel Lukin – Lifeboat Inventor

Adapted, with gracious permission, from an original article by Robin Sharp in the Royal National Lifeboat Institution's magazine "The Lifeboat" (Summer 1992).

During 1991, U.S. Coast Guard Motor Lifeboats launched 3,426 times, saved 341 lives and assisted 7,801 others. An English coachbuilder who would have been 250 years old on 18 May 1992 made a large contribution to these impressive statistics.

Lionel Lukin's tombstone in Kent, England describes him as 'the first who built a Life Boat...the original inventor of that principle of safety'. Behind the epitaph (reputedly by Lukin himself), is the story of struggle for public recognition.

Lukin spent his school days in Dunmow, England before being apprenticed to a local coachmaker. He later set up a flourishing business in London's Long Acre and became Master of the Worshipful Company of Coachmakers.

Lukin possessed a fertile mind, inventing among other things, an adjustable reclining bed for invalids. But the invention for which he is most remembered is the 'unimmergible boat', forerunner of the lifeboat. He was intrigued by the concept of an unsinkable boat. Tradition say he tested models on a local pond. The term 'lifeboat' itself had not yet been coined, and Lukin's intent was 'an improvement in the construction of boats...which will neither turn over in violent gales, nor sink if they should be filled with water'.

In 1784, Lukin converted a 20ft Norwegian yawl, adding a cork belt projecting from the gunwales covered in a protective sheath. Inside, watertight containers at bow and stern and cork blocks increased buoyancy. To keep the craft upright, a cast-iron keel was added. The *Experiment* successfully completed trials on the Thames.

Lionel Lukin, "the original inventor of that principle of safety" the Lifeboat

On 2 November 1785, Lukin obtained a patent for his invention and approached the Royal Navy, suggesting that the design be adopted for ships' boats. There was no positive response. He then lent the *Experiment* to a pilot for rough weather testing. He never saw it again, hearing only that it had crossed the English Channel several times before being seized in a foreign port as a smuggler.

Undaunted, Lukin constructed the *Witch*. Although many were impressed by its qualities, there was still no encouraging reaction. However, in 1788 Archdeacon John Sharp asked Lukin to convert a coble for sea rescue.

Following the loss of the *Adventure* with all hands in 1789, local businessmen had offered a two guinea prize for the best designed life-preserving craft. William Wouldhave won, but his entry was considered worthy of but one guinea. Another competitor, boatbuilder Henry Greathead, was commissioned to construct a boat combining Wouldhave's design with his own. Completed in 1790, Greathead's 'lifeboat' The *Original* served for 50 years. More orders followed.

In an 1807 pamphlet, Lukin asserted that Greathead's boat was 'to all the essential principles of safety, precisely according to my patent'. The correspondence column of 'The Gentleman's Magazine' carried heated debate between Lukin and W.A. Hails of Newcastle over rival claims for 'lifeboat inventor' and merits of relative designs. It particularly resented that Greathead received £1,200 from Parliament, the Royal Society of Art's gold medal and widespread recognition. Lukin had nothing.

However, one of Greathead's lifeboats was disliked by its crew. Lukin then based a new design on a broad-beamed, lug-rigged craft, used for salvage work. A 40ft boat was built under Lukin's

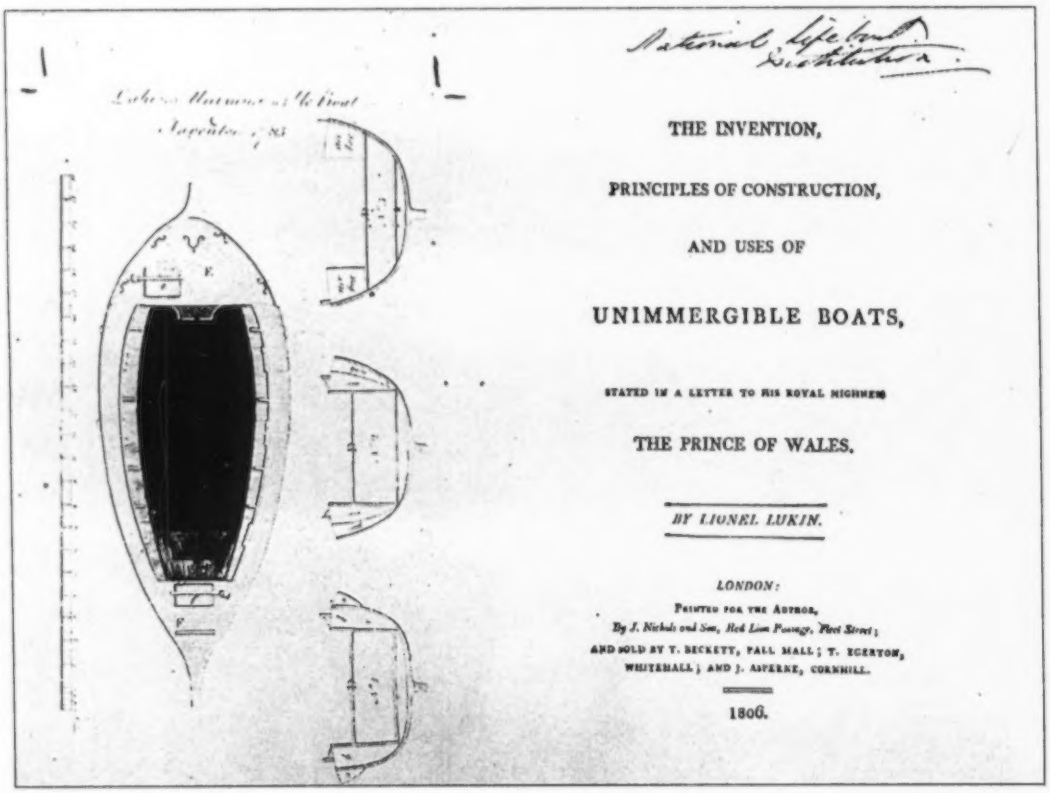
supervision for the Suffolk Humane Society. The *Frances Ann* was launched in November 1807 and performed impressively in adverse conditions. This three masted, lug rigged vessel (with twelve short oars) was the first sailing lifeboat built. It saved 300 lives during its 42 years service.

Lukin's belief was that 'all lifeboats should be built of the form most approved by...seamen on the coast where they are to be used.'

Lukin died on 16 February 1834. Denied credit during his lifetime, his tomb stands as a monument to 'the builder for the first lifeboat'. While he may not have set out to invent a 'lifeboat' as such, Lukin's idea forms a vital link in chain extending to today's Motor Lifeboats. Over 200 years have passed since the initial development, but the concepts of bouyancy chambers and ballast are still in use today.

Lifeboats have saved many thousands of lives through the years. This, on its own, is quite a fitting tribute to the man who planned an 'unimmergible boat.'

o/s



THE INVENTION,

PRINCIPLES OF CONSTRUCTION,

AND USES OF

UNIMMERGIBLE BOATS,

STATED IN A LETTER TO HIS ROYAL HIGHNESS

THE PRINCE OF WALES.

BY LIONEL LUKIN.

LONDON:

PRINTED FOR THE AUTHOR,

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AND SOLD BY T. BECKETT, PALL MALL; T. EGERTON, WHITEHALL; AND J. ASPERNE, CORNHILL.

1806.

"Unimergible Boats," An example of Lionel Lukin's work relating to the forerunner of the modern lifeboat

In the beginning...

By: Mr. William D. Wilkinson

The English origins of the early American coastal self-righting, self-bailing lifeboat!

The following article is abstracted from a paper presented by William D. Wilkinson, Director of the Mariners' Museum, at the second annual Conference on Small Craft held in May 1976 at the Mariners' Museum in Newport News, Virginia. This copyrighted paper was subsequently included in "Wooden Shipbuilding and Small Craft Preservation," published in 1976 by the Preservation Press of the National Trust for Historic Preservation of the United States. This abstract is used with the permission of the author.

Broadly speaking, any craft, whether shipboard or coastal, used for the purpose of saving lives may be considered a lifeboat. In the U.S. Lifesaving Service the "lifeboat" in contrast to a "surfboat" was generally over 27 feet in length and not only self-bailing but self-righting. Normally it was kept in sheltered moorings or launched from a slipway. Lifeboats were generally fitted with sail – although these were not always used – and manned by crews of nine or more surfmen. In hull configuration and construction, the lifeboat used by the service was a direct

development of the standard self-righting coastal lifeboat of the Royal National Lifeboat Institute of Great Britain.

The first coastal lifeboat station in the United States was probably stationed by the Humane Society of the commonwealth of Massachusetts at Cohasset in 1807. The Massachusetts Humane Society was the only organization with a system of coastal lifesaving stations, all of which were staffed entirely on a volunteer basis until Congress passed the Newall Act in 1848. The Newall Act provided for the establishment of a federally funded system of lifesaving stations to operate under the U. S. Dept. of Treasury; however funds allowed only for the purchase of equipment and construction of the most modest boathouses. Crews for the Francis metallic lifeboats with which these stations were equipped were drawn from the local shore communities on an informal basis "as needed". This rather casual "non-system" was retained with all its inherent weaknesses until well after the Civil War. By 1869 Congress and Treasury Department officials were taking a new and harder look at their coastal lifesaving facilities. Some of the significant factors included an increase in shipwrecks (due in part to a rapidly expanding coastwise trade), the formation of several new lifesaving organizations in the other countries and the success in reducing fatalities by well-established societies such as the RNLI and the Massachusetts Humane Society. In 1870 Congress strengthened the U.S. Life Saving Service by providing full time employment of surfmen on a seasonal basis at alternate stations on the New Jersey Coast. This use of salaried expert surfmen in the service was the first step to full employment at all stations on a 12 month basis.

A significant administrative step in 1871 was the appointment of Sumner I. Kimball as chief of the Revenue Cutter Service. Between 1871 and 1878, when the U.S. Life Saving Service was established as a completely separate bureau of the U.S. Department of the Treasury, Kimball headed both the Revenue Cutter and the Life Saving Services. One of Kimball's first steps was the establishment of a commission to study the problems of Lifeboat design and to determine what improvements could be made.

In June 1873 the U.S. Secretary of the Treasury, W. A. Richardson, to whom Kimball reported, requested B.F. Stevens, U.S. dispatch agent in London, to purchase for the Life Saving Service one of the latest and best models of the self-righting and self-bailing lifeboats then being used by the RNLI. He had been instructed to obtain a lifeboat that could be launched directly from a sandy, flat beach. The Secretary of the British Service offered the United States a 30-foot standard lifeboat being completed for a new lifeboat station at Dunwich, Suffolk, where a flat, sandy beach prevailed. A delay in the completion of the Dunwich station enabled the English service to release the lifeboat to the United States.

The lifeboat, transporting carriage and all equipment were purchased from the builder, T. and W. Forrestt & Son of Norway Yard, Limestone, London, for a total price of £531 (approximately $1,600).

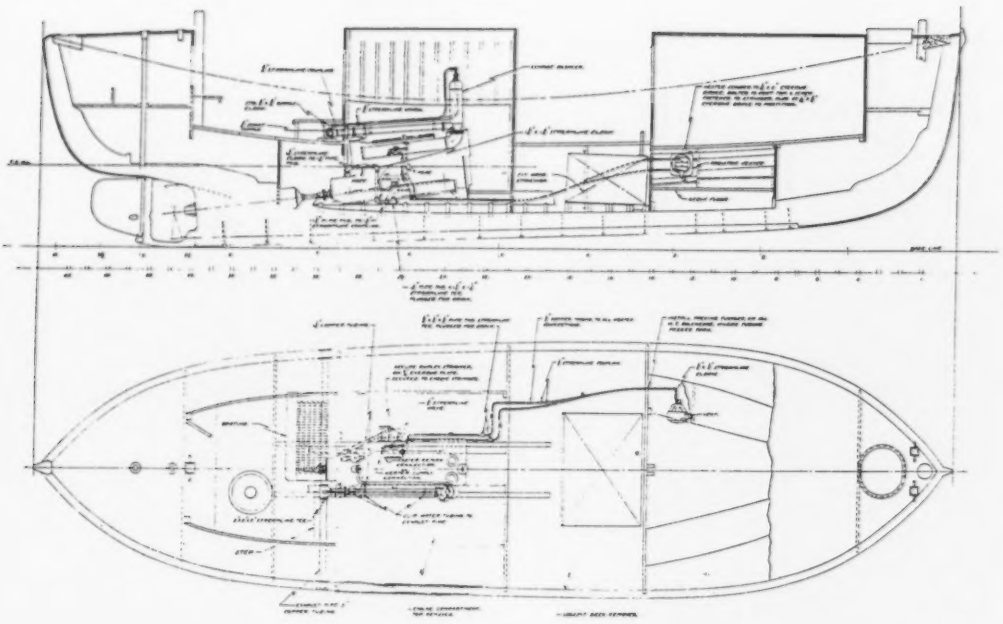
The 30 foot class of lifeboat was first built in 1851-52 and continued to be built as late as 1880. By 1873 when the American boat was completed, this most popular class of self righting lifeboat in the institution had grown in length to 33-34 feet.

The lifeboat ordered for the U. S. lifesaving Service was 30 feet in length overall, 7 feet 1 inch extreme beam and 3 feet 6 inches in depth. Hull construction was of double diagonal mahogany planking, mahogany deck and iron keel. Large air chambers at bow and stern, combined with a heavy keel, provided the self-righting quality; and four relieving valves through the main deck offered a self-bailing system that would free the craft of water within 24 seconds. There were four thwarts for eight oars double banked and four sails carried two standing lugs and a jib. Long years of experience had convinced the institution that the unique features of self-righting and self-bailing embodied in this 30-foot lifeboat represented two of the basic design elements that, along with other important characteristics, were essential to the seaworthiness of a coastal lifeboat.

Sumner I. Kimball (Chief of the Revenue Cutter Service)

36498
COAST G

Transition to power



The Coast Guard entered a new age of lifeboat design as worldwide improvements on engine performance and reliability increased.

The type TR 36-foot 8-inch motor lifeboat was the Coast Guard's standard design for the self-bailing, self-righting motor lifeboat; Coast Guard personnel reached a high degree of efficiency in handling this type of boat. The type TR motor lifeboat proved eminently satisfactory for the seacoasts and the Great Lakes.

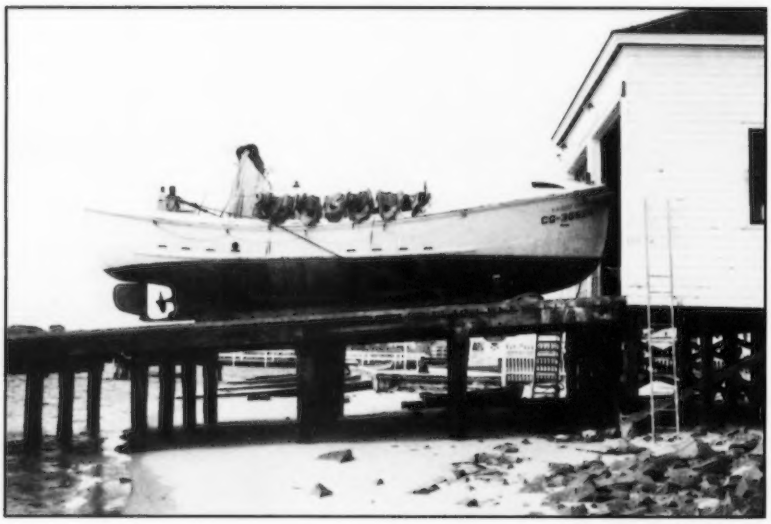
Watertight trunk enclosures furnish shelter for the rescued and protection for the radio telephone communication equipment. The lifeboats had:

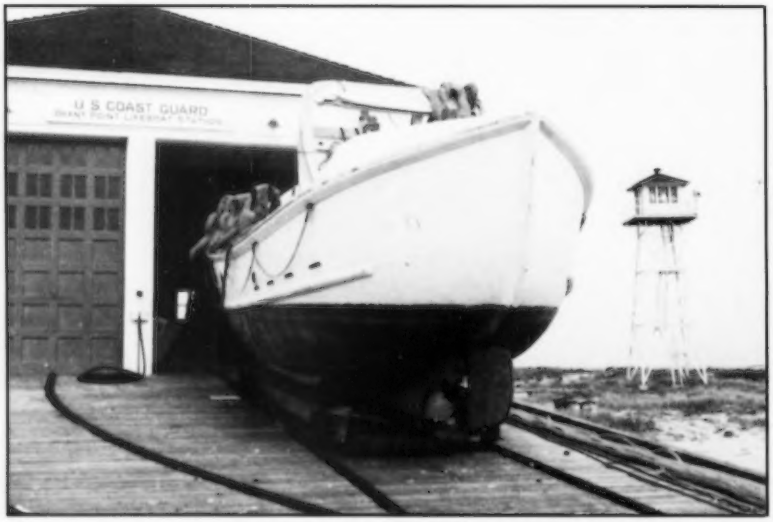
1) A six-cylinder Petrel engine of 100 horsepower

2) A cruising radius of about 200 miles, making 10½ knots at full speed.

Lifeboats were kept afloat at stations and where coastal conditions permitted. When launching carriages were used, a boat house was provided. The type TR motor lifeboats also had been used extensively in flood rescue work on the western rivers.

The total estimated cost of building and equipping a Type TR 36-foot 8-inch motor lifeboat was about $20,000.

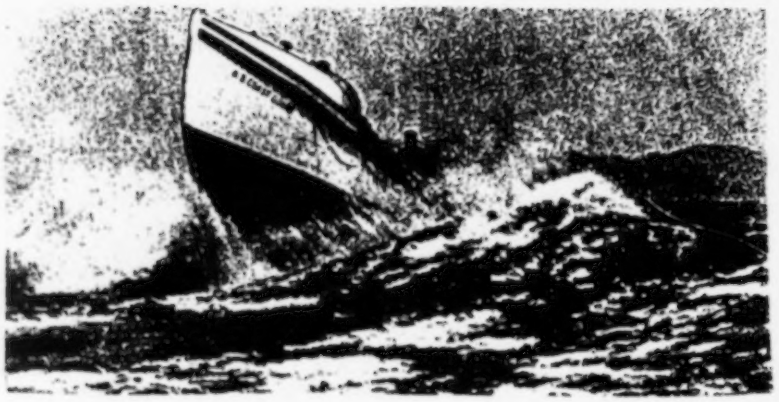




The 36–foot Motor Lifeboat stationed at the USCG Brant Point Lifeboat Station, Nantucket, Massachusetts
Pictures taken on Thursday, September 30, 1954, at about 11 AM Eastern Summer Time.

Rollover test for the 36-footer

The Nor'easter
(February 18, 1952)



On the night of February 18, 1952, a ferocious northeast storm slammed waves as high as 50 feet into the hulls of two tankers off Chatham, MA. Only one was able to send out a distress call before she broke up, and rescue ships zeroed in on her from Portland to Nantucket. That was the FORT MERCER.

The other broke in two so quickly that sending equipment was lost. Only a radio receiver was working. That was the PENDLETON. Thirty-three men, clinging to the stern section of the smashed PENDLETON, drifting helplessly past Pollock Rip lightship, banged about by mountainous waves, could hear the rescue effort for the other tanker. Every detail of the fleet converging on the FORT MERCER; not a word about the PENDLETON.

The Coast Guard Station at Chatham had picked up the PENDLETON on radar and was watching the two sections of the ship, marking their positions. To the scene rushed cutters and tugs. All the craft able to cope with the pitiless sea were fighting their way there. Chatham station sent out an amphibious DUKW to the PENDLETON but it was too small to make it. A surfboat was then launched but couldn't force the breakers at the bar.

Boatswain's mate Bernard Webber and a crew of three made the run. Their rescue craft: the motor lifeboat 36500; The crew: Irving Maske, Andrew Fitzgerald, and Richard Plivesey. Four men and a motor lifeboat, not expecting to get to the PENDLETON, not expecting to make it back over the perilous bar...not expecting to live.

They managed, in spite of every adversity the sea could produce. Going over the bar, the little boat was pounded by a huge wave and much of its rescue equipment was lost. The compass went with the rest. The one piece of equipment that would help them find the drifting section of the tanker with the crew members still aboard; the one piece of equipment that would let them find their way back, was gone.

Simple, sensible seamanship would have dictated a prompt return to the station. A tiny craft, no compass and the vast and rampaging sea. But rescue is the word that scrubs common sense, abolishes reason, wipes out calculation and leaves nothing but courage and a refusal to quit. The rescue was made and even that was incredible.

Of 33 men, 32 were picked off the tossing stern, down a Jacob's ladder over the tilted hull, the 36500 timing the rise and fall of the waves, one at a time, off the metal monster to avoid disaster, then back for one more rescue... off to maneuver, back for just one more...until they had all but the one who slipped and went under. Four Coast Guardsmen and 32 temporarily safe tanker crewmen on a valiant 36-foot motor lifeboat and no compass to lead them home.

Bernie Webber says today that the Lord had a hand on the tiller that night. Hoping to reach the beach somewhere, he found the entrance to the harbor itself, made it over the bar, made it safely to the fish pier. Not only was the rescue incredible, even the survival of the 36500 was a miracle in its own right. The rescue made international headlines. The four stubborn Coast Guardsmen got the gold medal for valor the service rarely awards.

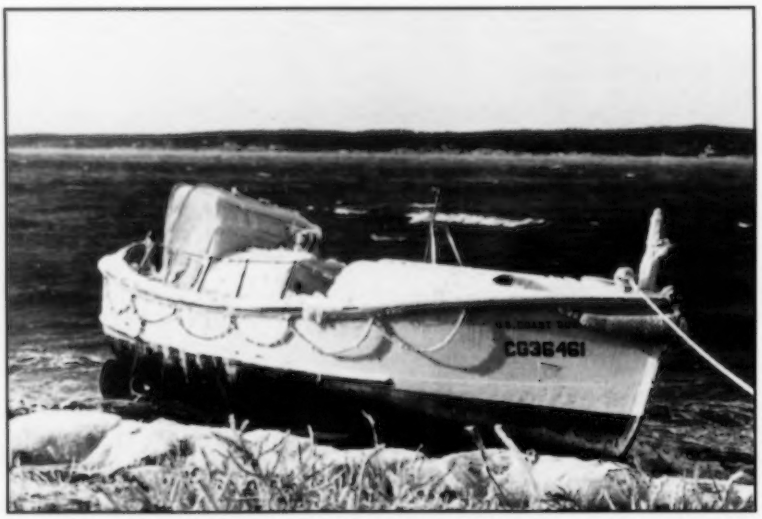
Arguably the Coast Guard's finest hour! cfs

CG 36500 on that fateful night, returning to the Chatham Fish pier with the 32 survivors from the Pendleton (Photo by Richard C. Kelsey)

The broken tanker Pendleton aground off Chatham bar, MA after breaking in half during a severe northeaster. (USCG Photo)

A rough time with the KATIE D.

Sheathed in ice, the 87-foot Dragger KATIE D. lies grounded on Rocky Neck Gloucester, MA. The Dragger lost power and drifted ashore in a severe winter storm. All eight Gloucester fishermen were rescued by the Coast Guard.



A Coast Guard 36-footer rests on Niles Beach, Gloucester, MA after it went aground in an attempt to rescue the eight fishermen from the KATIE D. They did it in sub-zero cold, high winds, and lack of visibility by snow and artic sea fog that hampered rescue operations and coated the vessel with ice.

Pride of the crew

By Michael W. McKinney (Reprinted from the 7-87 Commandant's Bulletin)

With the 44-foot motor lifeboat scheduled for replacement, there survives one MLB from another era: CG-36535 known as "Woody" to the crew of Station Depoe Bay.

Woody is the only 36-footer still in service in the Coast Guard. Manufactured in 1951, it is a single screw MLB built of solid oak frames, a hull of cypress planks and a solid bronze keel. The boat is self-righting and self-bailing. Woody was *the* MLB at Depoe Bay for many years.

The station now has two 44-footers, a 30-foot self-righting boat and Woody. Woody was inspected a few months ago by a marine surveyor and a 13th District team. The diagnosis was "This boat still has 10 more years of service left in her!"

That is all the more surprising considering the environment Woody has had to deal with. Depoe Bay has been called the smallest navigable bay in the world, measuring 1,000 feet long by 500 feet wide, connected to the Pacific Ocean by a gorge 300 feet long and 42 feet wide at mean low tide.

A fixed-concrete arched bridge that carries U.S. Coast Highway 101 over the channel is only 30 feet wide less than its vertical clearance of 42 feet.

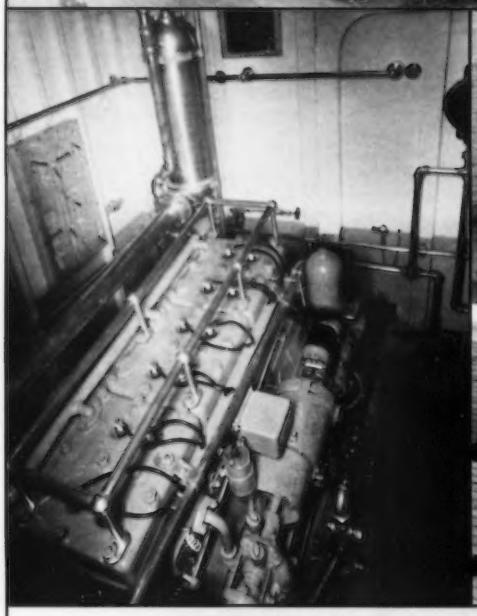
Depoe Bay's entrance cannot be seen from the sea because it appears to be a rock wall rising abruptly 48 feet from the ocean floor. Upon closer approach, however, one can see the narrow, doglegged hole in the wall.

These special conditions combined with dangerous ocean surge, especially in the winter, keep the coxswains of Woody and the other MLBs on the edge of the coxswain chair, ever wary of the jagged, submerged rock shelves on either side of the narrow passage.

If Woody could talk, it would surly have many stories to tell of Coast Guardsmen it took to and returned from sea on heroic rescues while battling the savage Oregon surf.

Ed. note: CG-36535 is currently on display at the Mariner's Museum in Newport News, VA cjs

THE LEGEND



UNITED STATES COAST GUARD

NEWS RELEASE

Release No. 61-3-40

NEW COAST GUARD RESCUE CRAFT

PORTSMOUTH, VA Sept. 1 - The Coast Guard's famous 36-foot motor lifeboat will soon be replaced by a new self-righting 44-foot steel hulled lifeboat, Admiral A. C. Richmond, Commandant of the Coast Guard announced today.

With the increase in pleasure boating in recent years, faster all weather craft are needed and the old 36-footers, although reliable and seaworthy, cannot meet these standards.

It is estimated that replacement will be at a rate of ten a year.

For comparison, the characteristics of this new 44-footer and the old 36-footer, which has been in use since 1929, are as follows:

	36-footer	44-footer
Length:	36'-8"	44'-1½"
Overall beam:	10'-8"	12'-8"
Power:	90-110 HP Diesel (Single Screw)	360 HP Diesel (Twin Screw)
Speed:	10 Knots(est)	12-15 Knots(est)
Displacement:	8.9 Tons	14.2 Tons

The scheduled completion date of the first of these new craft is expected to be sometime in September of 1961. They are being built at the Coast Guard Yard in Curtis Bay, Maryland.

ASTORIA PUBLIC LIBRARY

THE DAILY ASTORIAN

EVENING BUDGET

Vol. 87, No. 11 — Astoria, Oregon, Friday, January 13, 1961 — SINGLE COPIES 10c

1 Dead, 6 Lost At Sea

Gordon E. Heggtveit, oceanman aboard the Triumph, and the only member of the 82-foot Coast Guard lifeboat's six man crew known to have survived last night's marine tragedy, is shown in Ocean Beach hospital, being interviewed by a newspaper reporter. (A-B photo)

3 CG Boats Sink

By DON ROTHBERG
A-B Staff Writer

One man was dead and six more were missing in gale winds and churning seas at the mouth of the Columbia river that sank three Coast Guard boats and probably one fishing vessel.

One Coast Guardsman miraculously escaped and is in good condition in Ocean Beach hospital, Uwaco.

Winds of 45 miles per hour and swells of from 10 to 20 feet that were breaking on the bar were hampering search operations Friday morning.

The Coast Guard cutter Yocona, of Astoria, and two 36-foot vessels from Point Adams Coast Guard station, along with an amphibious plane and a helicopter and ground search parties on both the Oregon and Washington shores searched through the night for possible survivors.

The worst marine disaster in this area in several years occurred last night, when the 82-foot Coast Guard lifeboat Triumph, above, and one other launch, capsized on the Columbia river bar. Only one member of the [illegible] and four others [illegible] fishermen. One [illegible]

Coast Gu
Admiral to
Attend Rites

Jobless List Tops [illegible] Million

Lone Survivor Relates Events Of Ship Loss

Cowlitz Dam Plan

State Offers Testimony in Death Trial

New
Fo
F

Lost Crabber's Nameplate Washed Ashore

Coast Guard Probe Slated Into Disas

Stormy Ocean Again Shows Its Fury Here

[illegible] after a tragic night dead and six

Once again the cruel sea has risen up to show its vicious force, driven by the winter gales that frequently lash the narrow entrance of the Columbia and the menacing sands that guard it on both sides.

The tragedy of Thursday night is the worst that has overtaken the Guard here in many a year. a dangerous trip the roaring storm

Plans for Memorial Mapped

ALLAN WINBECK

Admiral Allan Winbeck, commandant of the 13th Coast Guard district, and Mrs. Winbeck will come to Astoria for the Triumph Mermaid memorial services Sunday afternoon, the committee in charge announced Friday. Capt. Willard Smith, chief officer of the district, als come from Seattle with and Mrs. Winbeck. Car conducted the Coast G tigation last week of dents in which

Survivor tells of 1961 bar disaster

By JOHN THOMPSON
Of The Daily Astorian

The sinking of the charter boat Pearl in September, though one of the worst small boat accidents on the Columbia river bar, was only one more episode in a long series of maritime dramas in the same setting.

The Pearl C tragedy and the painful hearings that followed called from memory another modern chapter in the same book.

On Jan. 12, 1961, 16 years ago this month, three U.S. Coast Guard boats and the fishing boat they had gone to assist went to the bottom in a gale on the churning bar, taking seven men with them.

Like many other incidents of the past, disaster has

out into the ocean in spite of worsening bar conditions.

After some searc
the Mermaid abo
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the 52-foot cutte
Adams.

"We were
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Murray for
off

CG Board Of Sea Tragedy Hunt for Wreck

A Coast Guard board of inquiry has been gradually and painstakingly piecing together the picture aboard of just what happened the tragic night of last Thursday when four boats and seven men were lost on the Columbia river bar.

The three-officer board, from the 13th Coast Guard district, took

Murray has been aboard Bergm aboar Murr fear ab s) urday

get in with the tow. Cape Disappointment told him to hold it there; the Triumph was on the way.

—At 7:30 p.m. the Triumph arrived and took over 40 and 36-foot ward

Four minutes picked

Gets Picture

Tragedy Ende

Wait

Probe of Sea

ings

Memorial Plaque Dedicated At Point Adams

er the Mermaid
nan Joseph Pe
crew

Day of dread

Office of Operations News Releases, 12–13 January 1961

DATE: 12 January 1961 / TIME: 10:15 PM

Earlier this evening, while assisting the disabled fishing vessel, The MERMAID, in the breakers at Peacock Spit at the mouth of the Columbia River, a 52-footer from the Point Adams LBSTA at Hammond, OR. and a 40-footer from the Cape Disappointment LBSTA at Ilwaco, Washington, capsized.

All crew members from the 40-footer were picked up by a CG 36-footer on the scene and have been transported to the Columbia River Lightship. One man from the 52-footer out of a crew of five has been picked up by the fishing vessel MERMAID. The remaining four crewmen have not been sighted.

The 40-footer that capsized and a 36-footer from Cape Disappointment LBSTA were dispatched earlier in the evening to assist the MERMAID when she had lost her rudder off the river and was drifting through the breakers. When it was determined that these vessels could not perform the tow due to the weather conditions at the bar, the 52-footer from Point Adams was summoned. The 52-footer had the MERMAID in tow when the line broke. The vessel turned around to resume the tow, took a breaker and capsized.

Two 36-footers are at the scene attempting to tow the MERMAID to safe waters.

The CG Cutter YOCONA (a sea-going tug) from Astoria and the Cutter MODOC (a sea-going tug) from Coos Bay, have been dispatched to the scene. The CG has also dispatched two CG aircraft from Port Angeles, WA with flares to assist in the search.

Additional details of the incident are not known at this time.

DATE: 12 January 1961 / TIME: 11:30 PM

Further developments on the distress incident at the Columbia River have been reported to the Seattle CG headquarters.

One man identified from the 52-footer has been picked up on the beach at Cape Disappointment. He is in shock and is being treated by a doctor. The latest information indicates that the F/V MERMAID is lost from view. The CG 36-footer that picked up the survivors from the capsized 40-footer had the MERMAID in tow but lost her, and in a disabled condition is now tied to the stern of the Columbia River Lightship.

The 52-footer that capsized righted herself and is now on the beach.

The Cutter YOCONA, two 36-footers and the CG aircraft are now at the scene searching. The cutter MODOC is en route to the scene.

DATE: 13 January 1961 / TIME: 1:20 AM

The fishing vessel MERMAID has not been relocated and is feared sunk. In spite of hazardous weather and sea conditions, the search is continuing.

The Columbia River Lightship reports that there were no injuries to the crew members from the 40-footer or the 36-footer now moored to the stern of the lightship. There were three persons aboard each boat. The names of the three persons aboard the 40-footer are:

Darrel J. Murray, BM1, 26, of Dixon, MO - married, family in Ilwaco, WA
Terrace A. Lowe, EN2, 20, Snohmish, WA - single
Acie B. Maxwell, SN, 20, Kent, WH - single

The man earlier reported on the beach from the 52-footer suffering from shock is Gordon H. Huggins, EN3, 22, from Vancouver WA. He is married and his dependents are at Portland OR.

A second person has been found on the beach at Cape Disappointment, but no identification has been made and there is no further information on this.

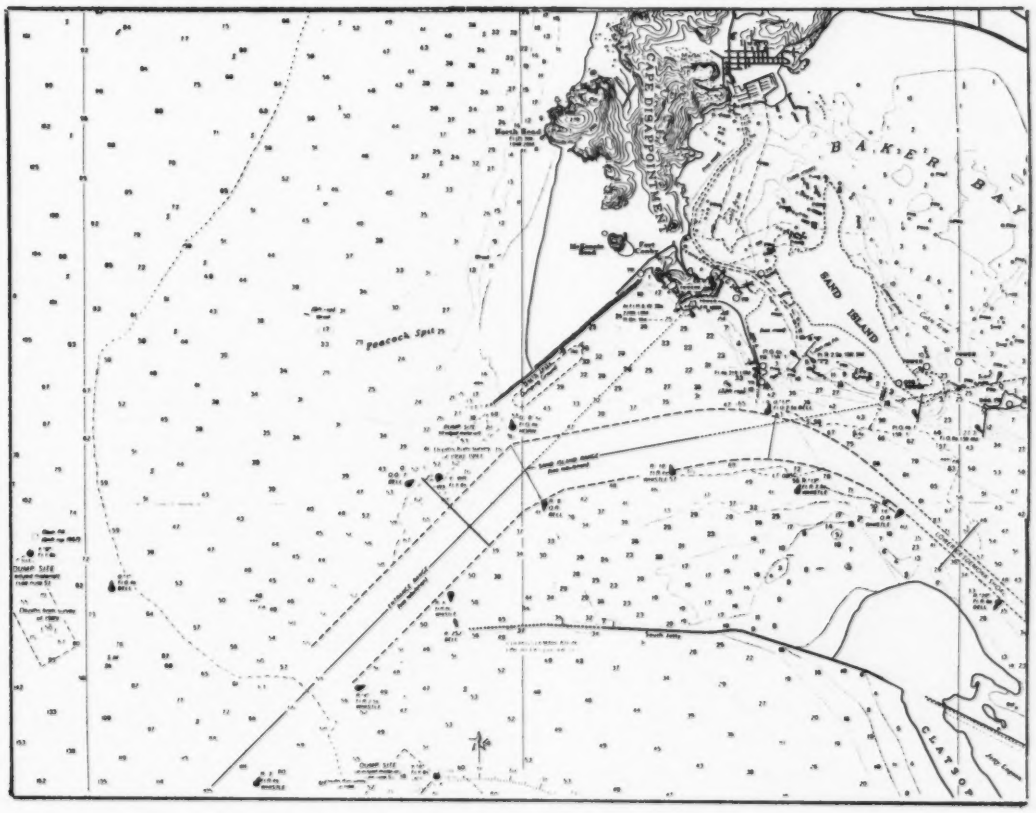
DATE: 13 January 1961 / TIME: 9:30 AM

The names of the four Coast Guardsmen missing from the 52-footer lost on the Columbia River Bar last night are:

John S. Hoban, BM2, 27, Independence, MO
- resides in Hammond, OR
Joseph E. Petrin, EN3, 21, Cedar River Park, Renton, WH
Gordon Sussex, SN, 21, Bellevue, WH
Ralph E. Mace, SN, 19, Vashon, WH

The body that was picked up on the beach shortly after midnight was that of John L. Culp, BM1 of Vale, OR, who resides at Hammond OR. He was 31.

The only survivor thus far is Gordon E. Huggins, EN3 of Vancouver, WH.

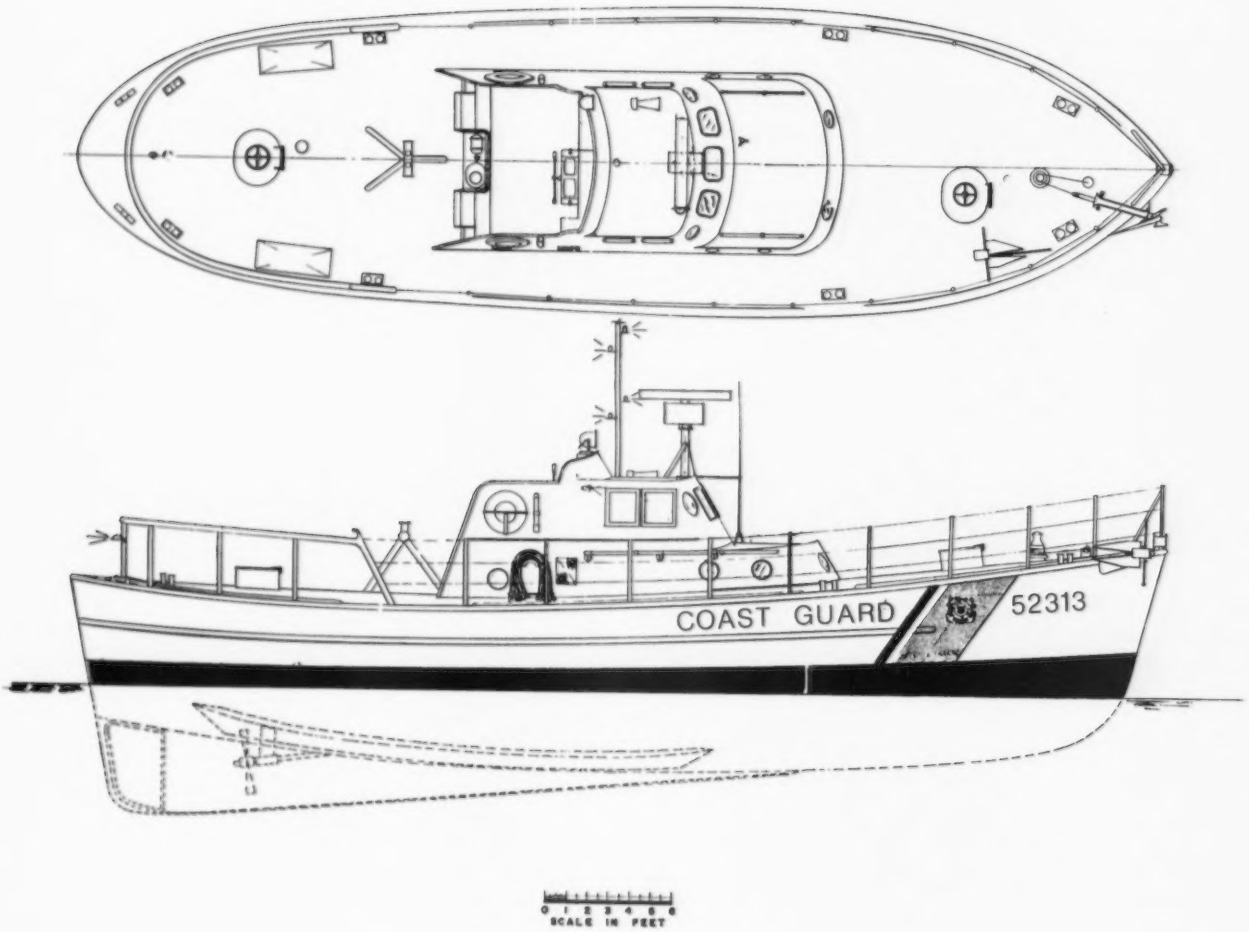


The Mouth of the Columbia River

The 52−footer

Purpose: Search and rescue work in severe sea states and surf conditions.

Length, overall			**52' 0"**
Beam, over rubrails			**14' 6½"**
Operating displacement			**70,900 lbs.**
Includes:	**Outfit**	**1,000 lbs.**	
	Fuel, lube, water	**10,044 lbs.**	
	Crew (5)	**900 lbs.**	
Draft at operating displacement			**6' 1"**
Cargo, maximum			
	(35 survivors)	**6,300 lbs.**	
Full load displacement			**77,200 lbs.**
Draft at full load			**6' 3"**
Hoisting weight			**70,000 lbs.**
Shipping weight			**60,000 lbs.**
Installed hoisting gear			**None**
Hull material			**Steel, Aluminum Superstructure**
Speed, maximum (70,900 lbs.)			**11 knots**
Speed, cruise (70,900 lbs.)			**11 knots**
Fuel capacity (Diesel)			**1.052 gal.**
Range at cruise			**495 mi.**
Engine details			**2 GM 6 71 170 HP @ 1,800 RPM**
			3:1 Reduction gear
Electrical system			**24 Volt DC**
Propeller details			**2 − 36" D x 30" P − 2−1/8" Bore**
			3 Blade Manganese Bronze
Cost and Year			**$236,000 (1962)**
Special features			**self−righting, self−bailing**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SCALE IN FEET

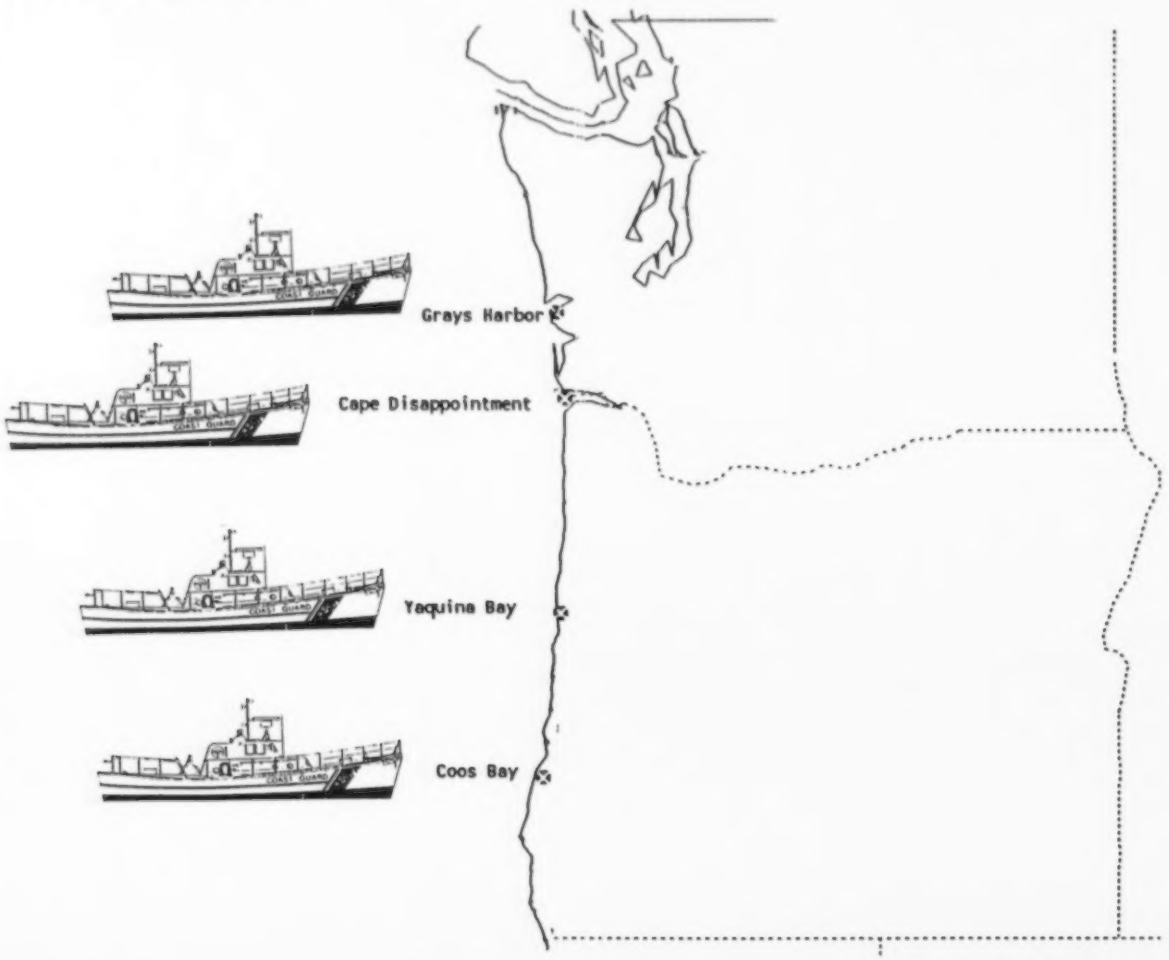
Mears was so distraught!

By: Commandant's Bulletin 8-80

The story goes that back in 1788 a certain Royal British Navy Lieutenant by the name of Mears was so distraught over failing to find a safe entrance to the Columbia river, he gave the rocky point of land jutting out from its mouth the name "Cape Disappointment." If Mears had been on board a Coast Guard 52-foot self-righting lifeboat such as the TRIUMPH perhaps today Cape Disappointment would be known by another name.

Many may not be familiar with these tough, dependable, hard-working vessels, although they have been part of our fleet for over two decades. One reason may be that they are all assigned to the 13th district. Another reason is that there are only four of them.

TRIUMPH makes almost a daily routine of traversing the forbidding waters at the mouth of the Columbia river. It is homeported at station Cape Disappointment.

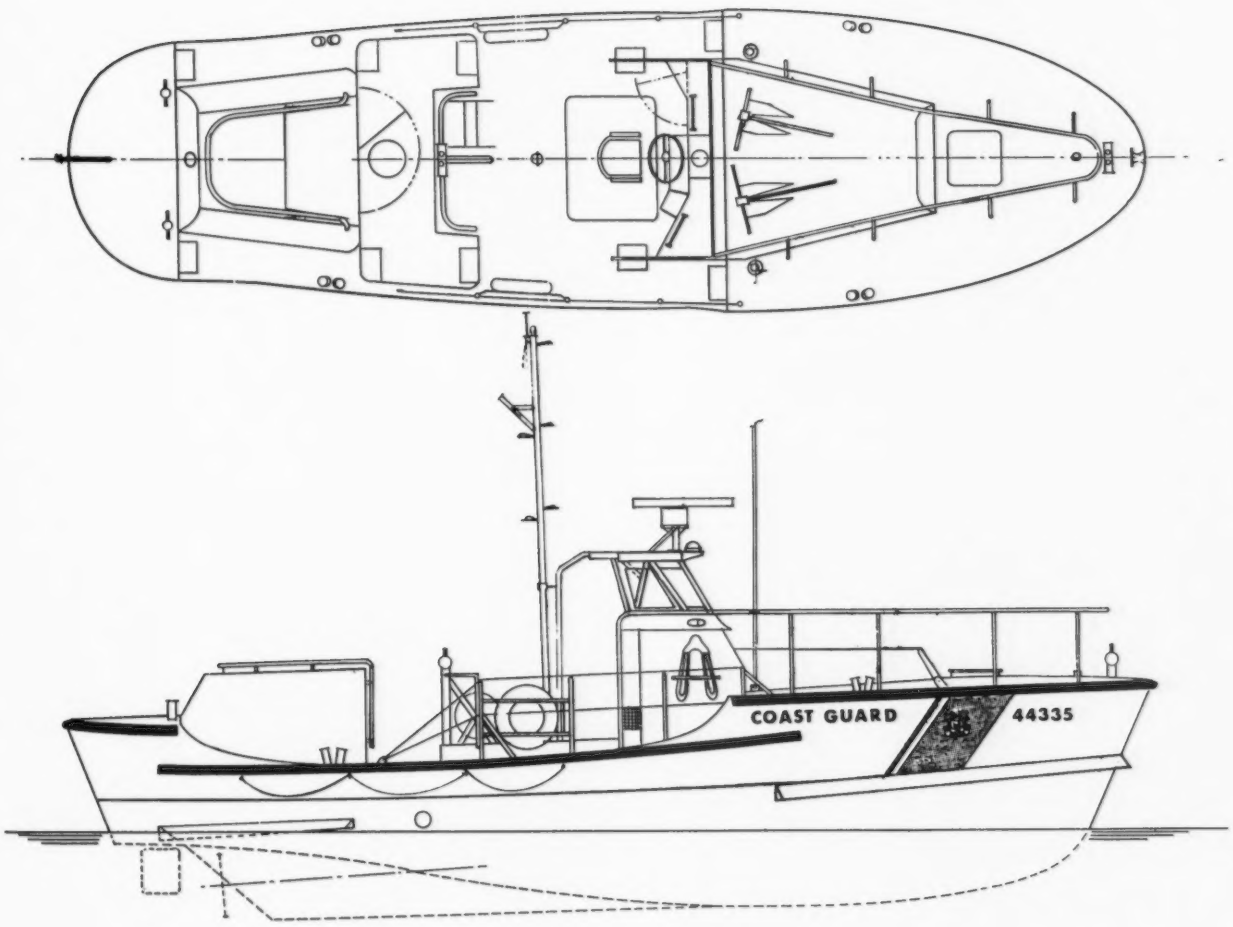


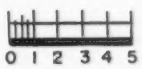
The 52−footer working hard

The 44−footer

Purpose: Search and rescue work under heavy sea and surf conditions.

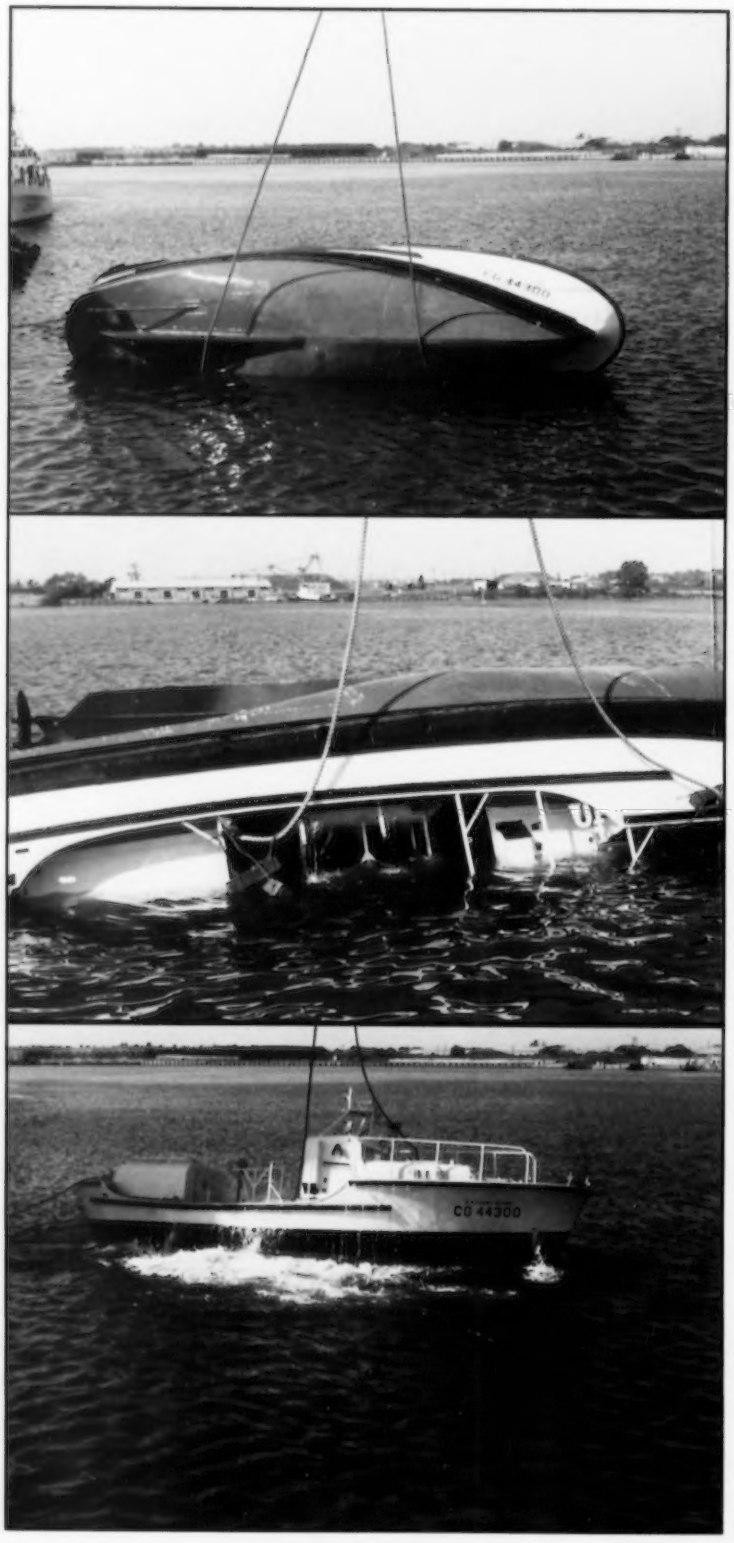
Length, overall		**44' 1−½"**
Beam, over rubrails		**12' 8"**
Operating displacement		**36,100 lbs.**
Includes: Outfit	**1,500 lbs.**	
Fuel, lube, water	**2,400 lbs.**	
Crew (4)	**540 lbs.**	
Draft at operating displacement		**3' 2"**
Cargo, maximum (21 survivors)	**3,780 lbs.**	
Full load displacement		**39,680 lbs.**
Draft at full load		**3' 4"**
Hoisting weight		**35,360 lbs.**
Shipping weight		**33,060 lbs.**
Installed hoisting gear		**4 pad eyes**
Hull material		**Alloy steel**
Speed, maximum (36,100 lbs.)		**13 knots**
Speed, cruise (36,100 lbs.)		**11 knots**
Fuel capacity (Diesel)		**330 gal.**
Range at cruise		**200 mi.**
Engine details		**2 − GM 6V53 186 HP maximum @ 2,800 RPM, Cruise: 2,380 RPM**
Electrical system		**24 Volt DC**
Propeller details		**2 − 30" D x 25" P − 2" Bore R&L**
Cost and Year		**$225,000 (1972)**
Special features		**fire pump, self−righting, self−bailing**





SCALE IN FEET

The rollover test for the 44-footer



"The 44-footer fought the fire like an angry terrier"

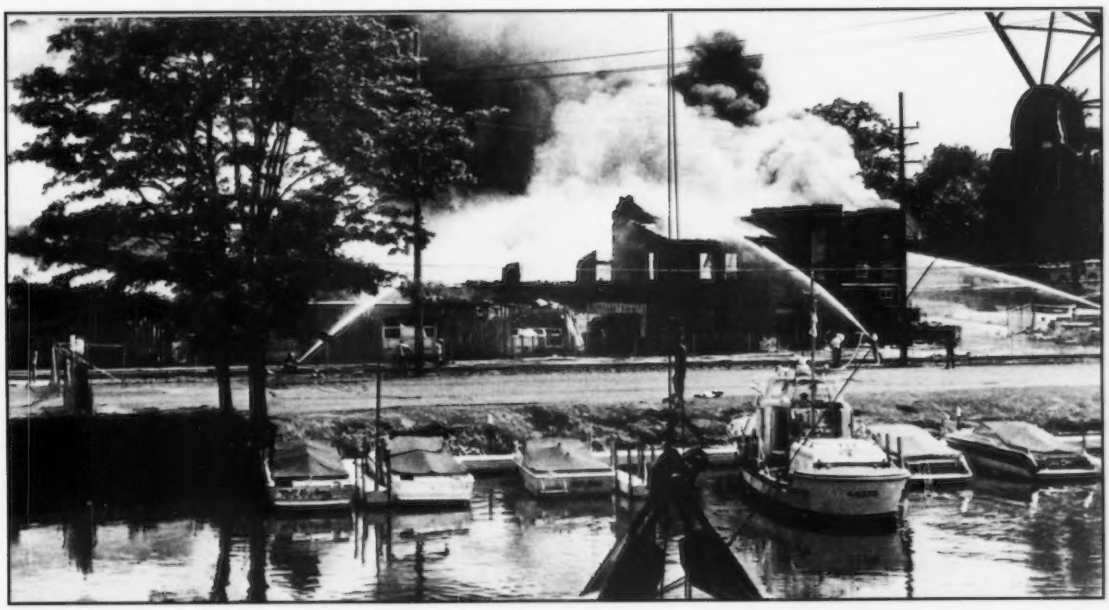
Reprinted from the Commandant's Bulletin, 30 August 1974

The master of a tug that had a serious fire in a barge tow has written to CCGD9 expressing admiration for the "bravery and quick action" of men from the Holland, Michigan, Coast Guard Station.

Captain Ray Eliassen was master of the tug JOHN M. SELVICK towing the 240-foot cement barge SEA CASTLE in ballast from Holland to Petrosky, Michigan. Fire broke out at the stern of the barge shortly after it entered the Holland Canal.

"A Coast Guard 44-footer came racing out to help," the Captain wrote. All during the time of working to position the barge alongside the seawall where the local fire department could get at it, "the 44-footer fought the fire like an angry terrier." Another boat from the Coast Guard also joined in the battle. With the help of the Coast Guard boats, the SEA CASTLE was held against the seawall for local fire companies to extinguish the fire with foam. The barge was in danger of blowing up because of the proximity of the fire to a compartment containing several hundred gallons of fuel. The Captain continued the letter, "If it hadn't been for the courage of the Coast Guardsmen in keeping the decks cool with their fire fighting it would have been too late for the fire department to do anything."

"I want to personally thank all the men of the Holland Coast Guard station for their help." Captain Eliassen concluded.



44-footers team up for rescue

By: SITREPS (Reprinted from Commandant's Bulletin 17-82)

Three crew members of the pleasure craft KOALA were saved May 25, 1982 when two 44-footers from Humboldt Bay responded at 11 PM to a request for an escort into Humboldt Bay.

The skipper of the 56-foot KOALA reported that his vessel had one engine down and a sick, fatigued crew.

With seven miles of visibility, 10-knot winds, and seas peaking at 18 feet, the two Coast Guard boats set out to aid and retrieve the distressed vessel. During the escort over the Humboldt bar, one rescue boat took the lead position while the other acted as a break. Although both Coast Guard boats' radars were inoperative, the rescue progressed smoothly until midnight when KOALA was thrown into the air, spun around and reduced to splinters by a 20-foot breaker.

Immediately, both rescue boats maneuvered to rescue the three crew members. Flares were set off to illuminate the area. The men in the water were spotted and assisted on board. The crew mates were pulled to safety and treated by the Coast Guard teams for hypothermia, cuts and bruises. One of the victims appeared to have suffered a heart attack. At the station the crew of the ill-fated KOALA was turned over to waiting medics.

Tough guys

By: Barbara A. Voulgaris (Reprinted from the 10-85 Commandant's Bulletin)

Waves reaching 18 feet crashed against the sides of the 44-foot MLB from Station Gloucester, MA. Winds gusted to 40 knots, keeping the crew from making much headway.

Nevertheless, the 44 eventually reached the disabled fishing vessel *Global Cape Ann* on August 1, 1985.

"We got underway about 7:30 AM and reached the vessel four hours later on Wild Cat Knoll about 35 miles east of Gloucester", said BM3 Charles Hocking, coxswain of the boat. It took until noon to get the vessel in tow.

"On the return trip", said seamen Tom Quass, "we were heading into the waves and the wind. Every time we would go up on a wave it seemed like we were standing still." They were traveling at only three knots, meaning the ride back to Gloucester would take 10 hours.

"We were all pretty beat," said Hocking. "We each took turns on the helm and I had to navigate. About three hours after we took the vessel in tow the sun started to come out and our spirits picked up."

"In another hour the winds died down and the 44 was making six knots. When we realized we were three hours from the sea buoy I asked the crew if they wanted to finish the case. Since we had already gone this far we all decided to finish it ourselves."

They reached the sea buoy at 7:30 PM and finally tied up about 8:45 PM. The crew did an exceptional job. It was the worst conditions the others had seen.

BM3 Kevin Battle said the crew of Global Cape Ann expected to see an 82 or a 95-foot patrol boat. They could hardly believe their eyes when they saw the 44 coming up over the waves to bring them in.

The near wreck of the B. F. AFFLICK

By: **Michael Milliken** (Reprinted from the 1-87 issue of On Scene)

It appeared to be just another November afternoon on the Upper Peninsula of Michigan for the crew at Coast Guard Station Portage.

Winds gusted to 60 knots and seas ran to 25 feet. In the watch room the usual radio static was broken by a moment of silence, quickly followed by a request for help. Who could know that at 2:30 PM November 8, almost 11 years to the day after the M/V EDMUND FITZGERALD went down, another ship was in trouble on Lake Superior? This time it was the Canadian tug THUNDER CAPE and its tow, the derelict 640-foot M/V B. F. AFFLICK. The 107-foot tug's engines had overheated while trying to cross the angry lake.

Station Portage was alerted by someone near Eagle River, Michigan, that a freighter appeared to be in trouble about three miles offshore. BMC Russell J. Frank, 32, the station's Officer-In-Charge, directed CG-44374, a 44-foot motor lifeboat (MLB), to get underway after hailing the vessel on the radio.

"We departed at 3:45 and estimated the trip would take about four hours," said MK2 Patrick K. Milligan, 24, the boat engineer. "By the time we reached Copper Harbor it was snowing and visibility was next to nothing," Milligan added.

As the 44-footer was getting underway, the rest of the station's crew was moving in another direction planning for other problems.

By 9:35 PM CG-44374 reached the THUNDER CAPE. The tug and its tow had drifted approximately 15 to 20 miles. The M/V BELLE ISLE, a 1,000-foot freighter, was on scene trying to provide whatever lee it could to the disabled tug. Minutes after the 44-footer arrived, the three-inch thick tow line between the THUNDER CAPE and B. F. AFFLICK parted.

"Our first priority was the two crewmen on the B. F. AFFLICK," said BM3 John Betts, 26, coxswain of the Coast Guard rescue craft. "We maneuvered into the lee provided by the B. F. AFFLICK, which was broadside to the seas and made several approaches before getting the first man off.

The B. F. AFFLICK was drifting toward us at four to five knots. Our 44-footer slipped sideways and we found ourselves trapped against the side of the ship by 20-foot seas.

We inched forward toward the bow of the ship until we reached the rope ladder that the second man was hanging on to. the man then climbed down the side of his ship and into our boat," Betts said.

Tense moments followed as the 44-footer neared the bow of the B. F. AFFLICK. FN Robert J. Gruskowski, a crewmember aboard the 44-footer had been on the bow while retrieving the crew of the B. F. AFFLICK. "I couldn't unhook my safety belt from the stanchion, so I had to wait until our boat moved away from the ship a little more. If I had unhooked my belt I think I might have gone overboard. While we were coming down the side of the ship we bounced off and rolled to port. Looking back at the coxswain from the bow I remember thinking, 'we're going over,'" Gruskowski said.

"The 44-footer became trapped in a swell against the side of the B. F. AFFLICK and we began to roll," said ET3 Bill Schneider, 28. "Before the 44-footer came out of the roll, it had listed approximately 80-85 degrees. The whole crew thought she was going to take them under with no where to come up but under the B. F. AFFLICK."

Betts was able to maneuver the 44-footer away from the ship and turned his attention to the

disabled tug. After several attempts, the crews were able to link the two vessels with a tow line.

Because of the size of the THUNDER CAPE and the weather conditions the 44-footer soon had to release the tow. The rescue crew was directed to stand by and await the arrival of USCGC MACKINAW, still some 2½ hours away.

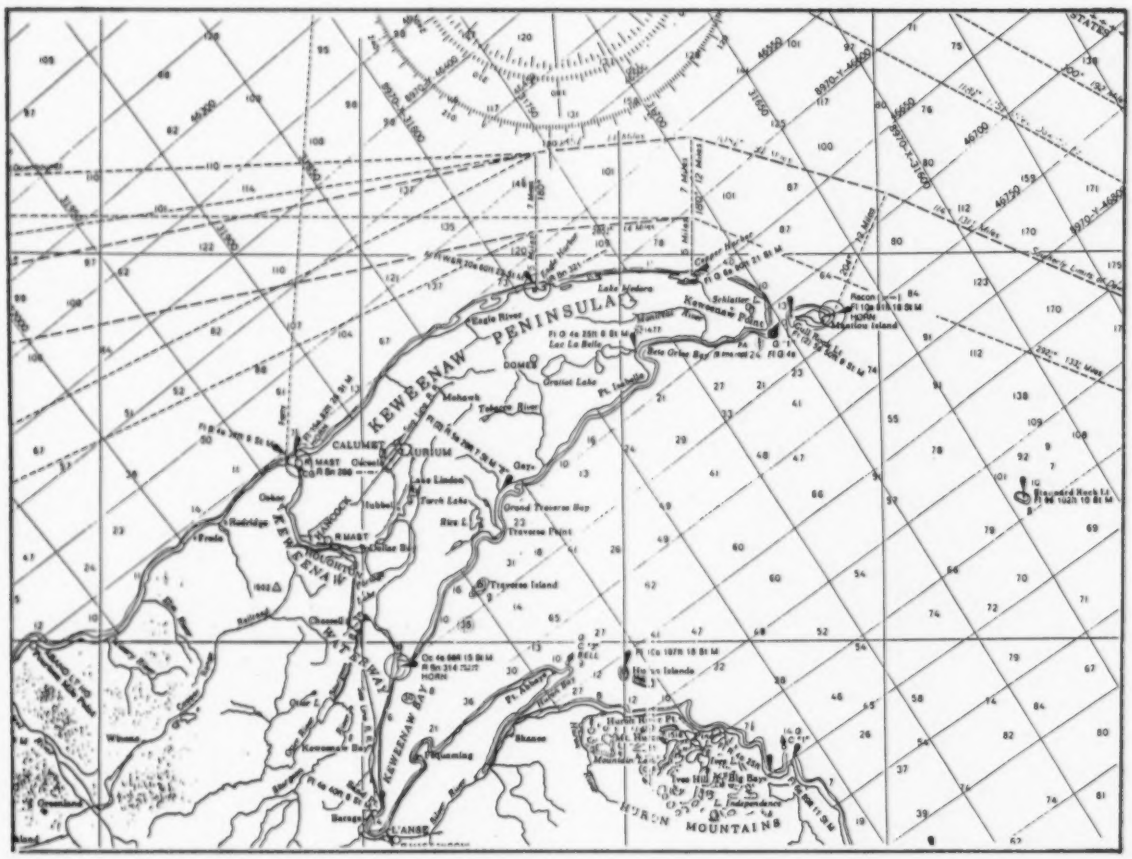
At 12:50 AM November 9, CGC MACKINAW arrived and relieved the Station Portage 44-footer. After being on scene for 15 hours, the 44-footer, its four-man crew and the two B. F. AFFLICK crewman headed for Copper Harbor, Michigan, where there was safe refuge and a place to get warm.

While CGC MACKINAW was standing by, the unmanned B. F. AFFLICK continued on its wind-driven course.

The Coast Guard issued an urgent marine information broadcast, warning all vessels transiting the area to keep a lookout for the B. F. AFFLICK.

A tug, the AVENGER IV out of Sault St. Marie, Michigan, caught up with the B. F. AFFLICK, which had drifted for almost 70 miles, and took her in tow. The MACKINAW was standing by to assist.

At Station Portage, after some hot coffee and rest, Kearns reflected on the success of the mission. "This case was successful because the units worked together." cfs



Skill and training handle a dangerous situation

The skill of the team is as important as the boat they drive!

By: The Crew at Station Gloucester

On Wednesday, October 30, 1991 the Northeast experienced a storm of historic proportions. It combined an old fashioned New England nor'easter with the effects of Hurricane Grace offshore and flood tides from an approaching new moon phase.

On Wednesday afternoon, when the storm hit on an incoming tide, 15 to 20-foot breakers were reported off Eastern Point and the winds were 35 knots with gusts to 50 knots. We had just recently experienced Hurricane Bob, but this largely unpredicted storm was a totally new experience.

The storm destroyed roads, pushed water into houses far from the ocean, destroyed them and ripped away their contents. It filled swimming pools with salt water and rocks – or should I say boulders. On Dog Bar Breakwater pieces of rip-rap half the size of a car were pushed on top of the breakwall itself.

In a tragedy, the 70-foot swordfishing vessel Andrea Gail was lost at sea while returning to Gloucester. The six-man crew reported 30-foot seas and wind up to 80 knots. The search went on for seven days, and only a propane bottle and the unarmed EPIRB were ever found.

By the 31st of October the storm had relinquished its hold on Cape Ann and personnel at Coast Guard Station Gloucester.

Though we had been very busy during the storm, we still had our hands full with boats taking on water, others adrift or stranded and with giving the local police a hand keeping curiosity seekers from jetties, ruined roads, collapsed houses and eroded shoreline.

Sea buoy #2 at the mouth of the Annisquam River had lifted her mooring and washed ashore onto Coffins Beach.

CG44317 carrying all necessary survival gear and safety equipment was assigned to check the aids to navigation in the area, the condition of the breakwater and general condition of the shoreline. BM3 Kevin LaPlante (coxswain), MK2 Steve Mains (Engineer), BM3 Wayne Gabree, and SN Brian Smith were aboard wearing drysuits, safety helmets, SAR vests, safety harnesses and protective eye wear.

Upon completion of all damage tidereports offshore, the 44317 was positioned off Eastern point at Weber Rock and BM3 LaPlante requested surf training. The swells were running about 15 feet offshore, and on a mid-incoming there were 6-foot breaking seas.

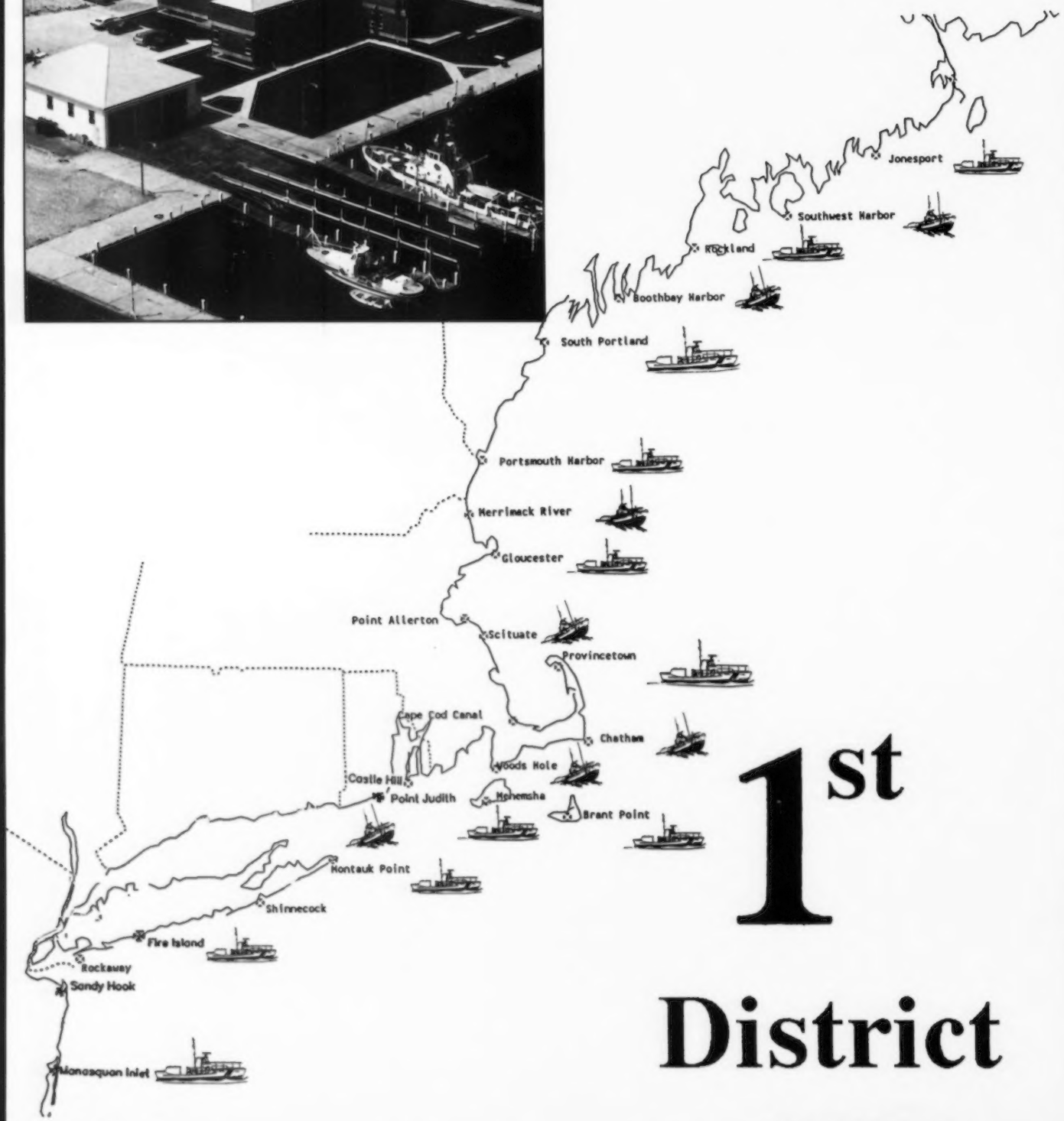
After some pounding situations, BM3 LaPlant reported to MK2 Mains that the steering didn't respond properly, as CG44317 was steering only to starboard. The crew responded to a "Loss of Steering Casualty."

Everyone was in their safety gear. MK2 Mains was in a potentially dangerous situation as he conducted a preliminary inspection of the engine room and after-steering compartments.

The coxswain's training at the MLB school really paid off as he kept the bow into the waves, in an extremely touchy situation, using only throttles for steering.

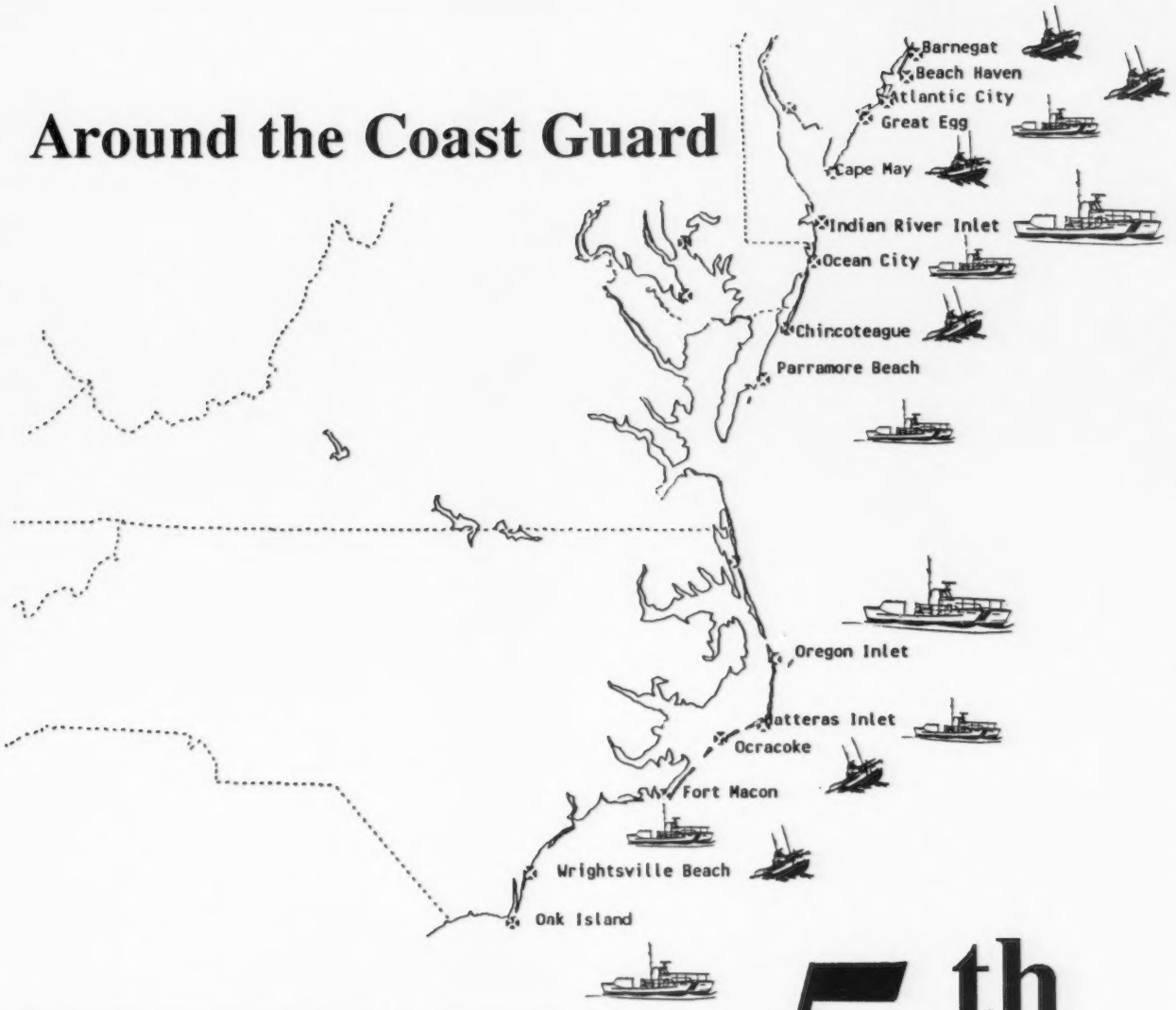
Engineer Mains' check of the engine room showed that the hydraulic system was intact. He then proceeded to the turtle back to inspect after-steering. He noticed that the supporting pad-eye for the hydraulic steering ram had snapped its weld. MK2 Mains reported the damage to the coxswain and requested to set up emergency steering. While SN Smith and BM3 Gabree were setting up for emergency steering MK2 Mains went back to after-steering to stabilize the steering ram until the crewmen were ready. The coxswain was advised that they were ready to shift the tiller. This happened precisely and CG44317 was able to make it to the relatively safe waters of the outer harbor. os

"Forty Fours"

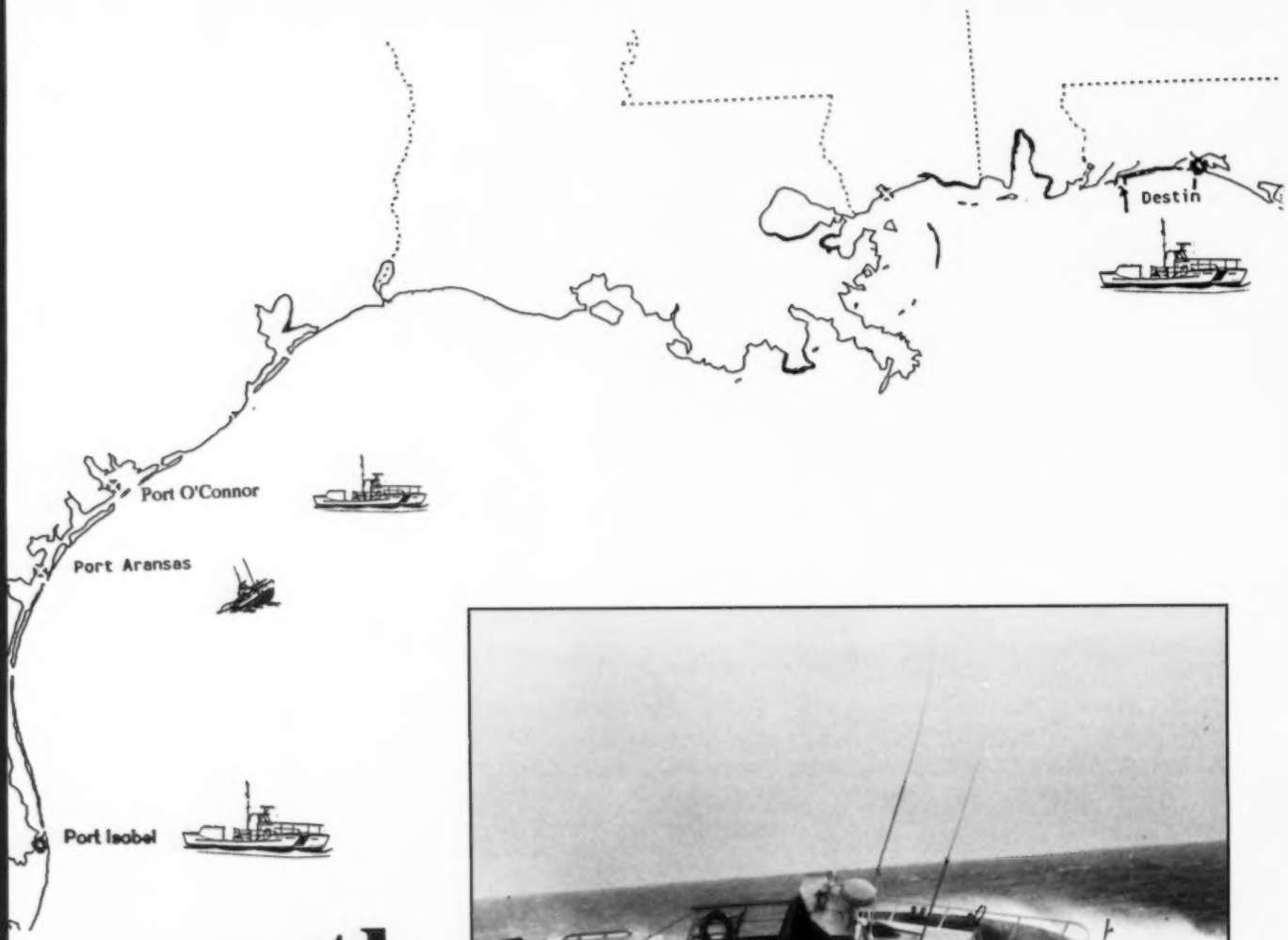


1st District

Around the Coast Guard



5th District



8th District

9th District

11th District

13th District

Cape "D" and the MLB School

Situation: Whipping seas and rolling swells have been grabbing at the boat crew's guts for the past three hours. Midway through the river entrance, the coxswain looks back beyond his disabled tow and gauges the next oncoming 15-foot breaker.

Results: What the coxswain does in the next few seconds, and how he does it, is critical. It's also the purpose behind the National Motor Lifeboat School at Ilwaco Washington. It is the only school in the world where people are trained in the art of navigating heavy weather and surf while carrying out search and rescue efforts.

The school was operated by the 13th District for 12 years. In 1988, the school became a headquarters unit. At that time, the equipment, personnel, and experience were greatly increased to provide instruction to coxswains throughout the Coast Guard.

Since then, the school has developed to a point where three separate courses of instruction are conducted, two of which are geared specifically to the operation of the motor lifeboat.

The Basic Operator Course supplements a unit's own training program with two weeks of intensive hands on training in MLB specific skills. The Heavy Weather Coxswain course is an advanced course for already certified coxswains. The cirriculum is derived from the Surfman Qualification Guide and is designed to allow the students to safely and confidently operate the 44-foot MLB in the environment it was designed for - heavy weather and surf. For that reason, the school was located just inside the mouth of the Columbia river whose bar has been aptly named the "Graveyard of the Pacific."

At maximum ebb tide and with onshore swell system, the bar has been recorded generating 40-foot breakers.

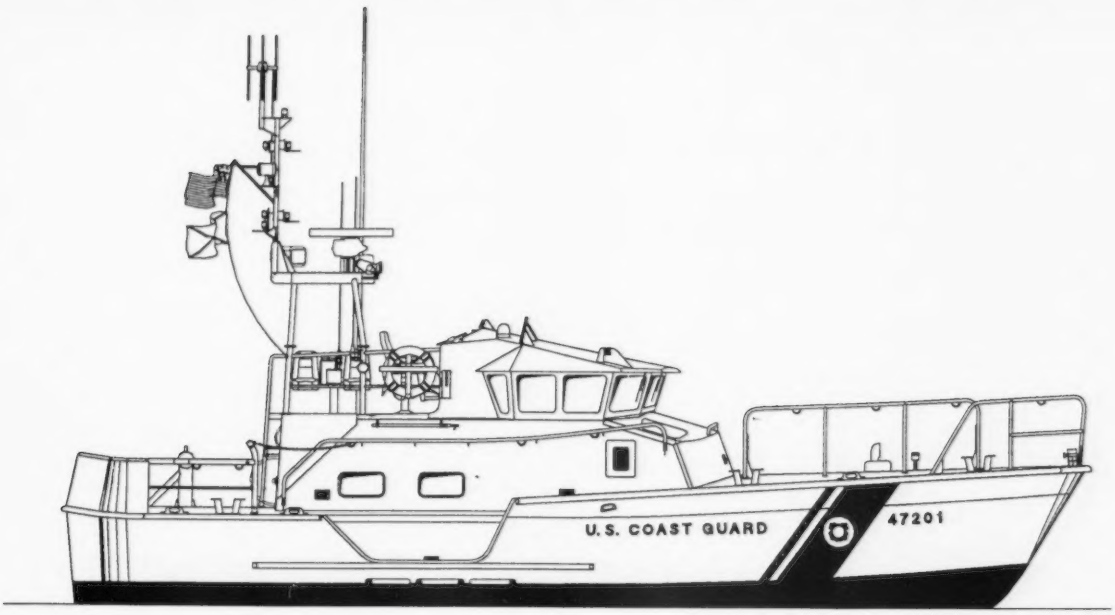
Crossing such a surf line or bar without being beaten about, having waves break into the boat, or rolling the vessel over is very close to being an art form. The school's instructors, all heavy weather qualified with many years of experience behind them, teach the students the "tricks of the trade" while the students themselves are behind the helm. They orient the students to the limitations of the equipment, three 44-footers, and their correct operating procedures.

The school reemphasizes the lessons already learned by the students and gives advanced instruction in all operations carried out by the search and rescue crews. About half of the instructing time is conducted on board the MLBs, either dockside or underway.

The 47−footer

Purpose: Replacement vessel for 44−foot Motor Lifeboat capable of working Search and Rescue in heavy sea and surf conditions.

Length, overall		**47' 11"**
Beam		**14'**
Operating displacement		**36,100 lbs.**
Includes: Outfit	**1,500 lbs.**	
Fuel, lube, water	**2,400 lbs.**	
Crew (4)	**540 lbs.**	
Draft at operating displacement		**3' 2"**
Cargo, maximum		
(21 survivors)	**3,780 lbs.**	
Full load displacement		**40,000 lbs.**
Draft at full load		**4' 4"**
Hoisting weight		**35,360 lbs.**
Shipping weight		**33,060 lbs.**
Installed hoisting gear		**4 pad eyes**
Hull material		**Alloy steel**
Speed, maximum		**27+ knots**
Speed, cruise (36,100 lbs.)		**11 knots**
Fuel capacity (Diesel)		**330 gal.**
Range		**250 mi. at 27.2 kts**
Engine details		**2 − 6V−92 TA Detroit Diesels 425 SHP maximum @ 2,800 RPM,**
Cruise: 2,380 RPM		
Electrical system		**24 Volt DC**
Propeller details		**2 − 30" D x 25" P − 2" Bore R&L**
Cost and Year		
Special features		**fire pump, self−righting, self−bailing**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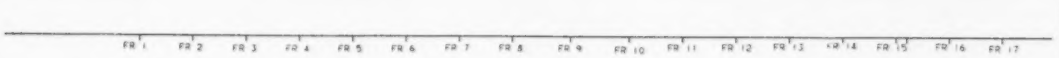
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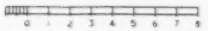
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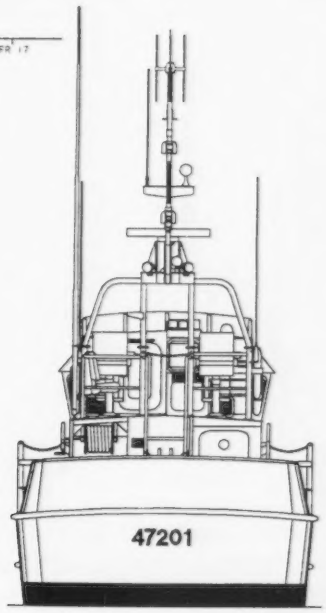
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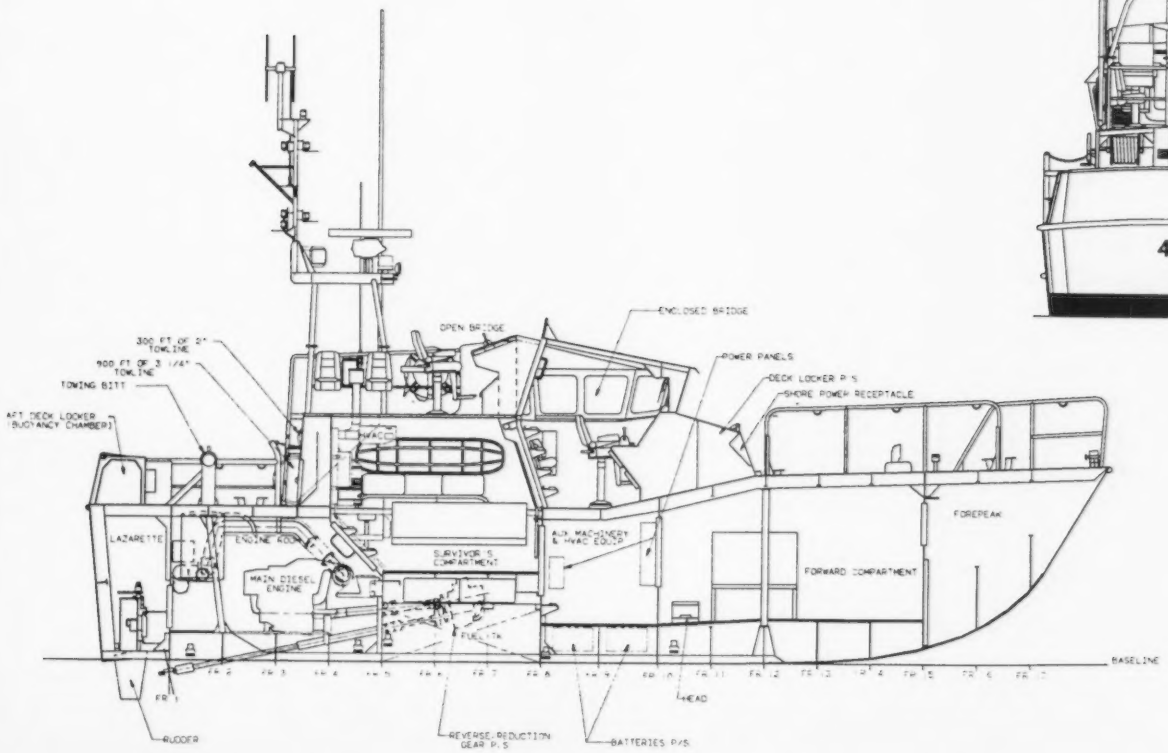

OPEN BRIDGE
ENCLOSED BRIDGE
300 FT OF 2" TOWLINE
900 FT OF 3 1/4" TOWLINE
TOWING BITT
POWER PANELS
DECK LOCKER P/S
SHORE POWER RECEPTACLE
AFT DECK LOCKER (BUOYANCY CHAMBER)
HVACC
LAZARETTE
ENGINE ROOM
MAIN DIESEL ENGINE
SURVIVOR'S COMPARTMENT
AUX. MACHINERY & HVAC EQUIP
FORWARD COMPARTMENT
FOREPEAK
FUEL TK
BASELINE
FR 1
HEAD
RUDDER
REVERSE REDUCTION GEAR P/S
BATTERIES P/S

The road to the new Motor Lifeboat

Overview of the Motor Lifeboat Replacement Project

This article is adopted from original On Scene articles by various authors.

The concept of a high speed heavy weather rescue craft is not new to the United States Coast Guard, nor to the rest of the world. As far back as 1959, when we were in the design phase for our present 44-foot MLB, a 25-knot design speed was specified. The 44 MLB, although an adequate rescue craft, did not meet this requirement, and was not modifiable to attain it. A top speed of 12 knots (less than half its design speed) was all the operational boats were capable of. At that time, the technology was just not available to produce a high speed boat capable of taking the punishment of heavy weather, year in and year out.

The 44-foot MLB has served us well, however as the first boats in the class approach their thirtieth birthday, they are becoming more expensive and difficult to maintain. Spare parts are hard to get, and many outfit items are no longer produced. A recent survey of three randomly selected 44's found that all had major problems indicative of a boat nearing the end of its service life, i.e; frames wasted away, superstructures rippled and corroded, and major electrical problems. Cost estimates ranged up to about one million dollars per boat to restore them to like-new condition. After an expensive restoration project, however, we would still have a thirty-year-old design, with its inherent problems.

Armed with this information, Naval Engineers at Coast Guard Headquarters in Washington, DC began design work on a new class of Motor Lifeboat. Their goal was to design a boat that retained the durability and survivability of the 44 MLB combined with 30 years of technological advances.

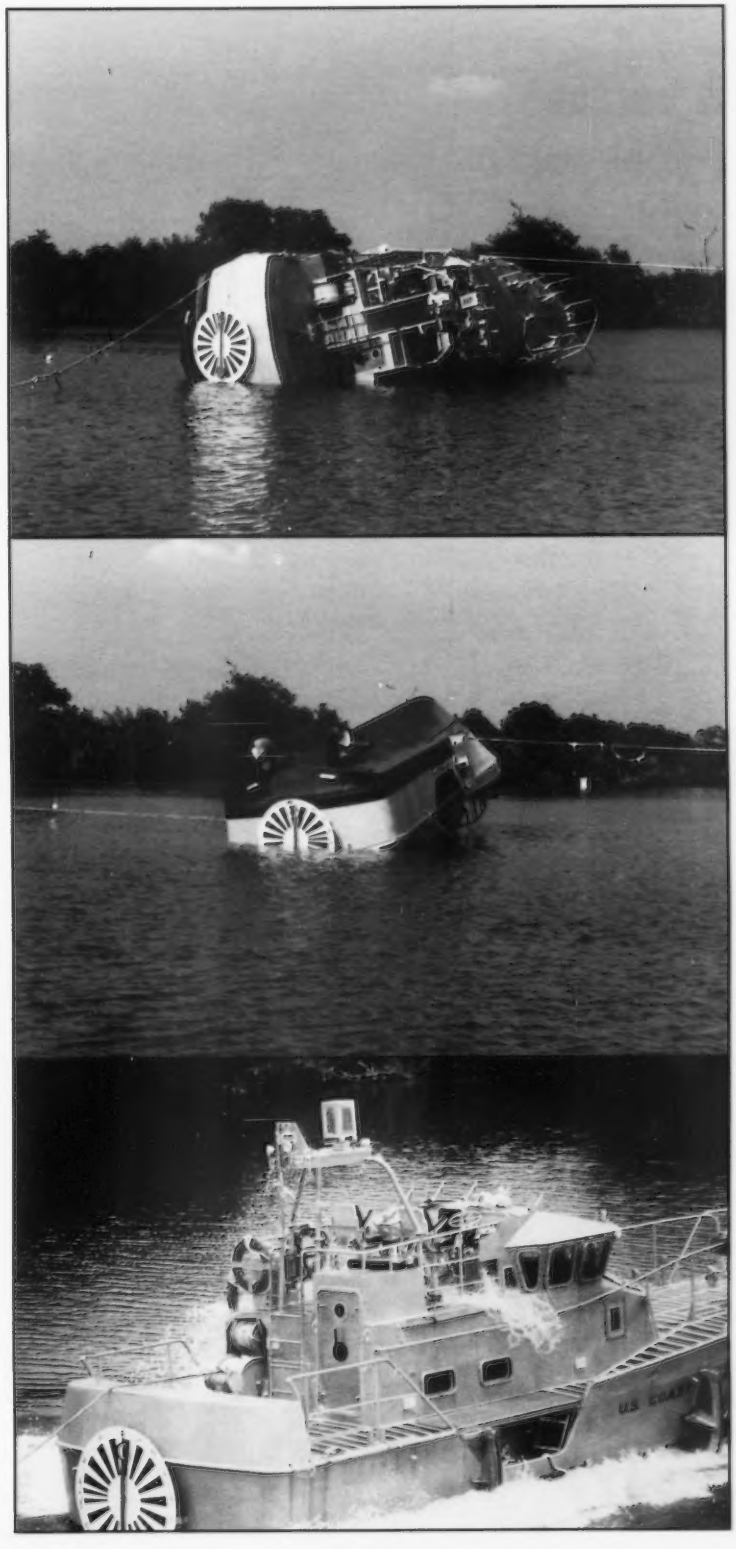
In 1984, a preliminary design outline was sent out to Coast Guard units for comment. These comments were incorporated and the concept design was again sent to the field. This process was repeated several times, and allowed extensive review of the project by the operators in the field.

In 1987, the project was presented for commercial bid. The contractor was tasked with finalizing the design and constructing one prototype for evaluation by the Coast Guard. The contract contains a provision for five more boats after testing the first vessel.

The contract was awarded to TEXTRON Marine Systems in New Orleans, Louisiana, a company with extensive background in high tech aluminum craft, including surface-effect landing craft and the US Coast Guard Seabird Class high speed patrol craft (surface effect ships). Their production facility is state of the art, and uses the latest in Computer Numerically Controlled (CNC) plasma arc cutters, allowing precise, repeatable cuts, and creating exact fits of individual components for the greatest strength-to-weight ratio possible.

The five preproduction boats will be stationed at strategic locations throughout the United States. This will allow the design to operate in different environmental conditions. After the boats have proven themselves, a competitive bid will be opened for construction of about 100 boats over a five year period. By 1997, the last of the 44 footers should be phased out of service while this new motor lifeboat is beginning its career.

The rollover test for the 47-footer



47-foot UPDATE!!!

By: LCDR Michael A. Monteith, G-NRS-2, Sponsor's Project Officer

Previous issues of *On Scene* have featured numerous articles on the 44' Motor Lifeboat Replacement Project. From concept through prototype, the editors have kept readers up to date on what we now know as the 47' Motor Lifeboat. Recent *On Scene* articles by the 47' MLB Test Team proudly described the boat's best and most promising capabilities and candidly noted its problems.

The Search and Rescue Division, the boat's sponsor and primary customer, has resisted comment until all prototype testing and development was complete and the results were in.

Now we can speak!

With five "preproduction" 47' MLBs contracted for delivery within the next year, our readers may correctly assume that we believe the 47' MLB will ably carry on our missions into the next century. Likewise, we have no doubt that the 47' MLB is superior to our 44' MLB or we would not go forward building additional boats. In fact, for our applications, we think the 47' MLB is superior to all other comparable lifeboats in the world. This is not to say that our transition into this new boat will be a zero-fault process. Nor are we naive enough to argue that all of our assumptions about how we will operate and maintain this craft will prove valid. However, we feel confident in predicting that the 47' MLB will permit our boat crews to carry out the business of the Coast Guard in keeping with our finest traditions and in step with the future. Further, we believe the 47' MLB will accomplish its job without breaking the bank or breaking the backs of our people.

Our confidence is based on the results of comprehensive testing and evaluation of the 47' MLB prototype. No other Coast Guard boat or cutter has had its technical and operational characteristics so accurately and objectively measured. In retrospect, we were fortunate to have the development of the new lifeboat coincide with the maturation of the Coast Guard's relatively new Office of Acquisition. The 47' MLB is one of the first CG projects to fully incorporate the best, proven acquisition practices borrowed from the Department of Defense, tailored for our applications. As a "vanguard" project, all eyes were focused on the boat as it was built and tested. With scrutiny at all operational and management levels, the boat's best attributes became obvious and there was no way to understate or "explain away" shortcomings. As a result, over 100 significant design improvements have been been included in the specification for the preproduction boats.

With technical verifications in hand and two year's worth of development testing complete, we are confident that the 47' MLB meets our fundamental requirements. Our concept of a safe, fast, easy to maintain lifeboat is valid. We set out to build a MLB replacement that would:

* offer ultimate crew safety and seakeeping (self-righting) in unrelenting heavy weather and surf conditions

* recover persons from the water with ease and safety

* tow distressed vessels up to 150 tons displacement

* reduce crew fatigue

* carry out all Coast Guard missions more effectively and efficiently than the 44' MLB, and

* operate within the existing fiscal and personnel base.

From our design verification, we know that the 47' MLB has the technical specifications which meet our Sponsor's Requirements Document.

Technical Specifications

LOA – 47' 11"
Beam – 14' 0"
Draft– 4' 4"
Full Load Displacement – 40,000 lbs
Speed – 27+ kts
Bollard pull – 9000 lbs at 1500 rpm
Range – 250 miles at 27.2 kts
Positive Stability – 360°
Survivor Capacity – 5
Standard Crew – 4

Further, our rigorous and uncompromising developmental testing suggests that the 47' MLB can pass the following Critical Operational Issues (COI's) which serve as "go–no–go" gauges for proceeding to full scale fleet production.

The boat must:

* have sufficient maneuver–ability (speed, power, and control) to operate in surf, pick up personnel from the water, and control a tow, alongside and astern.

* be able to survive unavoidable breakers and provide adequate crew protection. Crews must be able to move about safely in calm and heavy weather conditions to accomplish missions.

* reduce motion and detrimental habitability characteristics (rolling, pitching, slamming, vibrations, bow immersions, wetness, noise levels, visibility, etc.) which adversely affect the crew's ability to accomplish missions.

* exhibit predictable behavior (no dynamic instability, unpre–dictable motions, inability to bring boat to course, broaching, etc.) The boat must always be under positive control of its coxswain.

* be maintained within the current funding base, personnel rating structure, and expertise level at stations and support facilities.

These COI's will be verified through Operational Testing and Evaluation (OT&E). The five preproduction boats will be placed in service and operated as the B–0 boat on "normal" cases and sorties by "normal" crews. This process will be carefully recorded and quantified to further determine how effective and suitable the 47' MLB is for our missions. OT&E will begin in the summer of 1993 and continue for approximately a year and half. Undoubtedly, more changes and refinements to the existing design will follow.

Still, old questions and doubts linger. The Search and Rescue Division regularly responds to inquiries about whether this is the right boat for our missions. We are in the unique position of being the 47' MLB's greatest advocate and harshest critic, simultaneously. On one hand, we must correct misconceptions about the boat, its systems, and operational doctrine. At the same time we must not overlook potential problems in our zeal to get a new boat into service.

Let's take this opportunity to put some common myths about the 47' MLB aside. At the same time, we'll be open about some areas of concern which we intend to watch carefully.

Myths and Truths

MYTH 1 – An aluminum boat will always be weak. It will crack all the time and its difficult to repair in the field.

TRUTH – Minor, but annoying, structural cracks on our 41' UTBs over the years have led some to believe that an aluminum boat cannot be made as strong as the old CORTEN steel 44' MLB. The 47' MLB is strong. INCREDIBLY strong. Believe it. Further, with recent proliferation of low cost, easy to use inert gas welding technology, quality field repair facilities (including many of our own) are commonplace.

MYTH 2 – A hard–chined, squared–stern motor lifeboat will never work.

TRUTH 2 – It's impossible to build a fast, maneuverable, planing motor lifeboat with soft bilge and round stern. When faced with the decision of whether to build another slow, plodding, high motion boat like the 44' MLB, or one that would get out and back faster with greater comfort and safety, we chose to try a planing hull. Indeed, this was a departure from our generations of experience with displacement lifeboats. However, the 47' MLB has now proven its design in 20–foot surf and in seas to 30 feet. Yes, we are going to have to learn some new operating techniques. We think the results will be worth the challenges.

MYTH 3 – The boat is too complex. We don't need all those bells and whistles. Coxswains will fall asleep using the autopilot and drive the boat up on the beach. (We hear that one a lot.)

TRUTH 3 – The 47' MLB is not complicated and certainly not "Star Wars." It is built to contemporary marine standards and is, in fact, less complex than most comparable sized yachts. All of the systems, including

electronics, are the same as found in commercial and recreational applications. We will have to develop some new operational and maintenance techniques, just the same as auto mechanics had to adjust to electronic engine control systems, and as all of us had to learn to program VCRs and digital watches.

MYTH 4 - A BM3 can never learn to operate it.

TRUTH 4 - See MYTH 3. BM3s are not our only coxswains. We are hoping that the arrival of the 47' MLB will serve as a catalyst to coax our senior coxswains away from their desks and onto the boats to polish their skills and train our BM3s. (Remember, qualification as coxswain is NOT a prerequisite for advancement to BM3.) From our Stan Team records, we know that there are some BM3s that shouldn't be operating ANY boats. Likewise, there are hundreds of competent BM3s that, given adequate training and experience will have no problem transitioning into the 47' MLB. Heavy weather operations aside, the 47' MLB is easier to operate than the 41' UTB in many respects. Also, its incredible resistance to capsizing provides it a measure of safety undreamed of with the 44' MLB. We think that OinC's are going to sleep easier at night as a result of the 47'MLB, *especially* when the newly qualified BM3 is on duty.

Other Concerns

Now let's address a few topics regarding the 47' MLB which, as the Program Sponsor, we will monitor carefully during he upcoming Operational Testing and Evaluation.

Draft and Exposed Screws - All boat design requires compromise. Its impossible to build a strong, light, fast, maneuverable, sea-kindly and self-righting lifeboat which has shoal draft and a full length skeg. The 4'4" draft of the 47' MLB is almost a foot greater than the 44' MLB. This can prove to be a significant difference when approaching a grounded boat on a shallow beach. This difficulty is compounded by the fact that the screws on the 47' MLB are just about the first appendages to touch the bottom when the boat grounds. Some screw protection is afforded by small "skeglets." These are intended to keep the blades on the propeller in the event of "touching" the bottom. They will not serve as grounding shoes and coxswains must refrain from dredging their own channels as is sometimes done with the 44' MLB. During Operational Testing and Evaluation we will carefully study how the additional draft and unprotected screws affect the boat effectiveness and suitability.

PMS and Routine Maintenance - The 47' MLB prototype is not a boat that will thrive on neglect. It's a joy to operate when its tuned up, but it's a slug when it's not maintained properly. The Detroit 6V92TA engines are no more difficult to keep up than the comparable Cummins VT903Ms in our 41' UTBs. However, if routine tune-ups and PMS are deferred, performance suffers to an unacceptable, and in some cases, unsafe degree. We have no doubts that our personnel CAN maintain the engines and associated systems. However, we must ensure that all commands with 47' MLBs DO keep up with PMS and recommended service intervals.

Hang Rolls and Other Errant Behavior - The 47' MLB prototype initially exhibited several unacceptable handing traits. These included pronounced transient instability in turns and extreme broaching under certain mild following sea condition. These problems appear to have been virtually eliminated by a new rudder design. Of course, the boat has only been tested on the long swells and rolling surf of the Pacific Ocean. Will the shortened period waves and steep chop of the Atlantic Ocean incite these problems again? We don't think so but we will certainly be alert for it during Operational Testing. So alert, in fact, that we are installing the marine equivalent of a black box flight recorder to permanently log the motions of each preproduction 47' MLB. If these boat do anything "squirrely," we'll have it recorded in black and white to study for new solutions.

Firefighting and Dewatering - The Coast Guard needs only nominal firefighting capability from the 47' MLB to meet mission requirements. This will be met by a newly designed CG-P5 portable pump. This pump may be passed to another vessel or it can draw water from an installed standpipe on the 47' MLB. It is also capable of delivering AFFF foam. This CG-P5 pump is also the 47' MLB back-up dewatering system. There is no installed eductor, just submersible bilge pumps. Will this concept work? We think so though we plan verify our assumptions throughout the Operational Testing and Evaluation.

These issues are representative of several other concerns which we are ensuring do not get overlooked in the upcoming Operational Testing and Evaluation of the 47' MLB. We are always open to your questions about the boat, its features, characteristics, and capabilities. Keep following *On Scene* as we enter Operational Testing and Evaluation. By this time next year you will be able to find a 47' MLB at Stations Gloucester, Cape May, Oregon Inlet, Umpqua River, Tillamook, and Cape Disappointment. Then you can ask those crews about the boat. Hopefully, they will be as impressed as we are with the 47' MLB's potential to perform our missions better, with greater safety and efficiency.

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